actual oxygenate type and amount blended with the RBOB, provided the refiner or importer carries out a program of contractual controls and quality assurance sampling and testing over the downstream oxygenate blending operation. Under the second option, the refiner or importer could make certain default assumptions regarding the type and amount of oxygenate blended downstream. EPA proposed that this assumption must be the ``worst case" assumption with regard to the oxygenate type, and volume (within the oxygen minimum and maximum requirements) <SUP>53

\5\3The worst case assumption for RVP and VOC emissions performance reduction would be ethanol, at the oxygen maximum level. For toxics emissions performance and benzene, the worst case would be the oxygenate providing the minimum volume (normally ethanol) at the oxygen minimum level.

One commenter suggested that EPA should modify the nature of this default assumption, by allowing refiners to designate one of two categories of RBOB, ``ether-only RBOB" and ``any-oxygenate RBOB." These categories would have different assumptions for oxygenate type; ether-only RBOB would be assumed to be blended with MTBE, and anyoxygenate RBOB would be assumed to be blended with ethanol. Notwithstanding the assumption of MTBE use for purposes of compliance calculations for ether-only RBOB, any ether could be added downstream to an ether-only RBOB. However, it would be a violation to add an alcohol to an ether-only RBOB. This commenter stated further that the amount of oxygenate should be assumed to be that amount necessary to add 2.1 weight percent oxygen, the annual average oxygen level that oxygenate blenders must achieve for reformulated gasoline produced using RBOB when meeting the oxygen content standard on average. EPA has generally adopted this suggestion for the final rule, but in a slightly modified form.

By adopting the approach suggested in the comments EPA is in effect adding an ether-only designation to the any-oxygenate designation implicit in EPA's proposal. EPA also is modifying to some extent the oxygen content and type assumptions that refiners must make if they rely on this RBOB designation in determining compliance with the VOC, toxics, and other non-oxygen content requirements of reformulated gasoline. First, refiners and importers that produce or import RBOB are required to designate the RBOB as any-oxygenate RBOB, or as ether-only RBOB.<SUP>54 These designations are in addition to, but must be consistent with, the specifications for the type(s) and amount(s) of oxygenate that must be included in the product transfer documents for RBOB. Second, refiners or importers that do not meet the requirements for a quality assurance program over downstream oxygenate blending, must assume that ethanol is blended with any-oxygenate RBOB, and that MTBE is blended with ether-only RBOB. For both types of RBOB, the refiner or importer must assume that the amount used is that amount sufficient for the gasoline produced to have 2.0 weight percent oxygen, or approximately 5.70 volume percent in the case of ethanol and approximately 10.80 volume percent in the case of MTBE. Refiner or importer oversight of the downstream oxygenate blending operation is not required if a refiner or importer relies on these ``worst case'' assumptions. However, as noted below, these types of RBOB must be segregated from one another.

\5\4Any oxygenate RBOB must meet all reformulated gasoline standards subsequent to blending with any of the following: ethanol, methanol, butanol, MTBE, TAME, or ETBE. Ether-only RBOB must meet all reformulated gasoline standards subsequent to blending with any of the following: MTBE, TAME, or ETBE.

EPA believes these assumptions regarding the type of oxygenate used are appropriate. The principal risk to the environment under the oxygen use assumptions is that an oxygenate blender

will blend ethanol with ether-only RBOB, which would result in reformulated gasoline that probably would support neither the toxics nor benzene properties claimed by the refiner or importer of the RBOB (due to an insufficient dilution effect), nor, in the case of VOC-controlled gasoline, the claimed RVP nor VOC properties (due to RVP increases from ethanol). On the other hand, any-oxygenate RBOB will be formulated for blending with ethanol, and would only improve for all properties if blended with an ether such as MTBE.

Several mechanisms will help ensure ethanol is not blended with ether-only RBOB. Ether-only RBOB and any-oxygenate RBOB must be segregated throughout the distribution system to the point of oxygenate blending. The product transfer documents will identify ether-only RBOB as such, which will put each person in the distribution network, and the oxygenate blender, on notice that the RBOB is not suitable for ethanol blending. Absent a highly unusual situation, a distributor would not be expected to dispense ether-only RBOB into a gasoline delivery truck for splash blending, because ethanol is the only oxygenate that normally is splash blended in trucks. In addition, it is likely that if ethanol were blended with VOC-controlled ether-only RBOB, the resulting gasoline will not meet the RVP maximum or VOC emissions performance minimum requirements, and would be susceptible to detection through EPA inspections or quality assurance programs conducted by regulated parties.

EPA believes the volume assumptions based on 2.0 weight percent oxygen are preferable to the commenter's suggested 2.1 weight percent basis, because there is no reason to believe any particular oxygenate blender will elect to use the averaged oxygen standard of 2.1 weight percent. In a situation like this involving default assumptions it is appropriate to adopt a more conservative assumption. Oxygenate blenders have the option of meeting either the oxygen standard for per-gallon compliance of 2.0 weight percent, or the oxygen standard for average

compliance of 2.1 weight percent. EPA believes the assumption that oxygenate blenders will at least meet the per-gallon standard is appropriate, and preferable to the proposed ``worst case'' oxygen use assumption of 1.5 weight percent, due to enforcement mechanisms contained in the final rule that apply to oxygenate blenders, i.e., quality assurance sampling and testing and recordkeeping. While it is true that any single batch of reformulated gasoline produced by blending RBOB with oxygenate could receive the per-gallon minimum 1.5 weight percent oxygen, the oxygenate blender must offset any gasoline produced at this oxygen level with other gasoline produced with oxygen levels greater than 2.1 in order to meet the 2.1 average oxygen content standard. In addition, EPA believes it is likely that most oxygenate blenders will choose to meet the oxygen standard on a per-gallon basis, rather than on average. The testing, recordkeeping, and reporting requirements for an oxygenate blender who elects the average oxygen standard are significantly greater than for an oxygenate blender who elects the per-gallon standard. Moreover, EPA's oversight experience with the state-enforced wintertime oxygenated fuels program, which includes the option of meeting that program's oxygen standard either per-gallon or on average, is that the vast majority of oxygenate blenders have elected the per-gallon option in that program. This precedent from the oxygenated fuels program is more compelling because the oxygen standard in the oxygenated fuels program is 2.7 weight percent for both the per-gallon and average options, yet oxygenate blenders for the most part still chose the per-gallon option. In contrast, under the reformulated gasoline program the average oxygen standard (2.1 weight percent) is more rigorous than the per-gallon oxygen standard (2.0 weight percent), which is an additional reason to believe reformulated gasoline oxygenate blenders will choose the pergallon option.

All oxygenate blenders, including a blender using any-oxygenate or ether-only RBOB and

who uses the average oxygen standard, must follow the oxygen amount instructions contained in the RBOB product transfer documents. These instructions must specify the minimum oxygen necessary for the resulting reformulated gasoline to meet all per-gallon minimum and maximum standards. For example, a particular batch of any-oxygenate RBOB may specify 2.0 weight percent oxygen in order for the resulting reformulated gasoline to meet the 1.3 vol% benzene per-gallon maximum. An oxygenate blender using the RBOB in this example is required to add a volume of oxygenate that is large enough for the reformulated gasoline to have a minimum 2.0 weight percent oxygen (e.g., a minimum of 5.4 vol% ethanol), regardless of whether the oxygenate blender is meeting the oxygen standard per-gallon or on average. A refiner or importer of RBOB who, in lieu of producing ether-only and/or any-oxygenate RBOB, elects to conduct a quality assurance program over downstream oxygenate blending operations may use the actual oxygen types and amounts blended with the RBOB. If such a refiner or importer fails to properly carry out the quality assurance program, however, the RBOB will be deemed to have been blended with 4.0 vol% ethanol (1.5 wt% oxygen), the ``worst case" oxygenate type and amount that is not constrained by ``ether-only" or ``any-oxygenate" designations. Under this assumption the reformulated gasoline would receive a 1 psi RVP boost associated with ethanol (see Section I of the RIA), and the minimum dilution effect of any oxygenate at 1.5 wt% oxygen (for example, 1.5 wt% oxygen results from 4.0 vol% ethanol, or 8.2 vol% MTBE). This assumption is appropriate in such a situation because it is possible the RBOB could be blended with ethanol at the 1.5 wt% oxygen minimum. EPA believes it is reasonable to assume the RBOB will be blended with at least the per-gallon minimum oxygen volume of 1.5 wt% oxygen, because of the requirements imposed on oxygenate blenders, such as recordkeeping, and mechanisms included in the final rule to ensure compliance with per-gallon minimums, such as

quality assurance sampling and testing by regulated parties and enforcement by EPA.

E. Averaging issues

1. Use of per-gallon and average standards EPA proposed that refiners and importers would be allowed to decide, on a per-batch basis, which regulated parameters will be subject to per-gallon standards and which will be subject to average standards. See 57 FR 13444 (April 16, 1992). For example, under the proposal refiners could decide for any given batch of reformulated gasoline to meet the benzene per-gallon standard and the toxics emissions reduction standard on average. Under the proposal these elections could be made separately for each batch of gasoline produced or imported, and separately for each parameter. EPA also intended that these per-gallon/average elections could be changed subsequent to the gasoline leaving the refinery or import facility, so that if gasoline that was intended to meet a particular standard on a per-gallon basis is discovered, subsequent to shipment, to violate the per-gallon standard, the refiner or importer could change its accounting records to switch the gasoline batch to the average standard category (provided the gasoline meets the per-gallon minimum or maximum).

EPA has reconsidered this approach, and now believes that refiners and importers should be allowed to use either the per-gallon or the average standard for each parameter, but that parties may not use a combination of per-gallon and average standards for any parameter during any single averaging period. This per-gallon versus average election must be made separately for each refinery and for each importer or oxygenate blender. Under this revised approach, for example, a refiner could elect to meet the benzene standard per-gallon and the toxics emissions performance standard on average for all reformulated gasoline produced at a refinery, but once these elections are made, they would apply to all reformulated gasoline produced at that refinery for the entire averaging period for these parameters. EPA is making this change from the

proposal because it is concerned that under the proposed approach nationwide average levels for regulated parameters would not achieve the levels of the average standards. For example, the average standard for benzene is set at 0.95 wt%, because, among other factors, EPA estimates that this level is at least as stringent as the benzene level that would exist in the absence of averaging. EPA is concerned that under the proposed approach for electing per-gallon versus average standards the nationwide average benzene levels in reformulated gasoline would be greater than the 0.95 wt% average standard for benzene. This result would be contrary to the intent of the Clean Air Act and EPA's goal that averaging should result in average parameter levels that are no less stringent than would occur in the absence of averaging.

Section 211(k)(7)(C) of the Act provides that benzene and oxygen credits may not result in average levels for these parameters that are less stringent than would occur in the absence of using any benzene or oxygen credits. EPA has viewed this constraint on the use of credits as appropriate to employ for all reformulated gasoline parameters that may be met on average, including parameters other than oxygen and benzene, that averaging should not result in average parameter levels that are less stringent than would occur in the absence of averaging. In addition, section 211(k)(1) of the Act directs EPA to promulgate reformulated gasoline regulations that require the greatest achievable reductions in VOC and toxics emissions, taking into account cost, health and environmental impacts, and energy requirements. EPA has concluded that if refiners were required to meet the reformulated gasoline standards on a per-gallon basis only, that refiners would produce gasoline with properties equal to the standards plus ``marginsof-safety'' necessary to ensure the gasoline in fact meets the pergallon standards. EPA also has concluded that the added flexibility afforded regulated parties through an average VOC or toxics standard results in the ability by refiners and importers to achieve more stringent

standards when met on average than is possible when standards are met per-gallon, and the magnitude of this greater stringency is at least equal to the margins-of-safety that would be used with per-gallon standards. As a result, in implementing section 211(k)(1) EPA intends to establish requirements that will result in reformulated gasoline having VOC and toxics properties that in practice are at least equal to the per-gallon standards plus the margins-of-safety (which is equal to the average standards).

In implementing these two statutory provisions, EPA intends that reformulated gasoline should have VOC and toxics emissions performance properties, and benzene and oxygen content properties that, regardless of whether credits or averaging are used, are in practice at least equal to the more stringent properties refiners would achieve if only a per-gallon standard were allowed. The level of these more stringent properties is at least equal to the per-gallon standard plus any ``margin-of-safety'' refiners would employ if only per-gallon standards were included.

As a result, EPA proposed and is adopting standards for average compliance that are more stringent than the standards for per-gallon compliance. Moreover, the differences between the proposed average and per-gallon standards reflect EPA's estimates of this per-gallon ``margin-of-safety'' for each parameter. The relationship between margins-of-safety and average standards is discussed more fully in the 1992 SNPRM, at 57 FR 13457-13458.

EPA is concerned that if refiners, importers, and oxygenate blenders can elect per-gallon versus average standards on a batch-bybatch basis, the levels of parameters in practice will not, on average, be approximately at the level expected if only a per-gallon standard were applied (equal to the per-gallon standards plus the margins-ofsafety), but rather will on average be closer to the per-gallon standards. EPA believes the proposed approach would have this result because of the ability of refiners and importers to elect to use the per-gallon or the average standards

separately for each batch. For example, the per-gallon benzene standard is 1.00 vol%, and the average benzene standard is 0.95 vol%. Under the proposal a refiner could, for each batch of gasoline produced, elect to meet the pergallon or the average benzene standard. EPA believes that under the proposed approach most refiners would produce gasoline with the intention that the benzene level will be very close to, but slightly below, 1.00 vol%. If the refiner's benzene test for any given batch indicates the benzene level is between 0.95 vol% and 1.00 vol% (which refiners would be able to achieve for most batches), the batch would be placed in the per-gallon compliance category. If the refiner misses this benzene goal for any batch, and the refiner's test result indicates a benzene level above 1.00 vol% (1.05 vol%, for example), the refiner would simply place that batch in the average compliance category, and also produce a corresponding volume of gasoline in the average category (or change a previously-produced batch to the average compliance category) having a benzene level sufficiently below 0.95 vol% that the two batches have an average benzene content of 0.95 vol%. The net result over the annual benzene averaging period would be that the majority of gasoline would be in the per-gallon compliance category with an average benzene content close to 1.00 vol%, while the minority of gasoline would be in the average compliance category with an average benzene content of 0.95 vol%. Under this example, the resulting overall benzene level of the gasoline produced by the refiner would be greater than the approximately 0.95 vol% which EPA would expect if all reformulated gasoline had to meet the per-gallon benzene standard. EPA announced in its 1992 proposal a clear intention that average standards be allowed in order to increase refiner and importer flexibility. EPA also made clear its expectation that the ``margin-ofsafety'' normally expected with a per-gallon standard not be lost because of averaging. This change is designed to implement this goal by preventing the potential unfavorable result from averaging described

above. The final rule therefore includes a requirement that refiners, importers, and oxygenate blenders must elect, for each calendar year and for each parameter, to use only the per-gallon standard or only the average standard for each regulated parameter. This election must be made separately for each refinery.

Under this revised approach to averaging, the average parameter levels for the gasoline produced by any refiner would be approximately the same regardless of whether the refiner elects the per-gallon or the average standards. For example, a refiner who elects to meet the benzene standard on a per-gallon basis probably will plan to produce gasoline with benzene levels sufficiently below the 1.00 wt% benzene standard to ensure that, when the production of each batch is complete, the refiner's benzene test results for each batch will be below 1.00 wt%. EPA estimates that refiners subject to the per-gallon benzene standard would aim for approximately 0.95 wt% benzene, and as a result the gasoline produced by such a refiner would have an average benzene level of about 0.95 wt%. In the case of refiners subject to the average benzene standard, on the other hand, refiners probably would plan to produce gasoline with benzene levels that exactly equal the 0.95 wt% benzene standard, with the result that the average benzene level for the gasoline produced by such refiners would be almost exactly 0.95 wt%.

Under the revised approach for selecting whether to meet standards per-gallon versus average, therefore, the average parameter values in practice will be at the levels intended by EPA and Congress, and not at the less stringent levels that would have resulted from the proposed approach.

EPA has not included a process for refiners, importers, and oxygenate blenders to notify EPA in advance of the per-gallon versus average standard elections. Rather, parties in effect will make this election when the first batch of reformulated gasoline is produced or imported each averaging period, because all reformulated gasoline subsequently produced or imported during

the averaging period must follow the lead of the first batch.

2. Oxygen averaging

a. Separate oxygen averaging for simple model VOC-controlled reformulated gasoline. In the proposed regulations published in 1992, EPA proposed that in the case of gasoline subject to the simple model the oxygen standard would have to be met separately for reformulated gasoline that is designated as VOC-controlled. The rationale for this category of oxygen averaging was that under the simple model the VOC emissions reductions required for reformulated gasoline would be deemed met only if the oxygen and RVP standards are each met for gasoline designated as VOC-controlled. Under that proposal, the gasoline quality surveys to be conducted in cities during the high ozone season would measure both RVP and oxygen of gasoline; the city would be considered to have passed a VOC survey only if both the oxygen and RVP levels met the per-gallon standards for these parameters. An industry group commented on this approach to VOC surveys and oxygen averaging. This commenter suggested that the VOC surveys should be based on a ``simple model" VOC equation that would take into account both oxygen and RVP. Under this VOC equation, if the oxygen content found during a survey is below the per-gallon oxygen standard (worse than the standard), this deficiency may be offset by an RVP level that is below the per-gallon RVP standard (better than the standard), and vice versa. This commenter went on to suggest that under this approach, there would be no need to require refiners and importers to separately meet the oxygen standard for simple model VOC-controlled reformulated gasoline.<SUP>55 Instead, according to this comment, the oxygen standard should apply only on an annual basis <SUP>56

\5\5Under the 1992 proposal, the separate RVP standard would apply only to simple model

VOC-controlled reformulated gasoline. The manner in which the RVP standard applies to VOC-controlled gasoline under today's rule is the same as in the proposals. The oxygen standard, on the other hand, would have to be met separately for two categories of reformulated gasoline under the 1992 proposal: VOCcontrolled reformulated gasoline and all reformulated gasoline. \5\6Under the 1992 proposal, for purposes of oxygen averaging, gasoline intended for use in oxygenated fuels program areas during the oxygenated fuels control periods (or OPRG) could not be averaged together with non-OPRG gasoline. The reason separate oxygen averaging was proposed for non-OPRG gasoline is to ensure areas not included in the oxygenated fuels program receive gasoline that meets the 2.0 oxygen content mandated by the Clean Air Act. If OPRG and non-OPRG gasoline could be averaged together for oxygen purposes, the gasoline in the OPRG areas--where 2.7 weight percent oxygen is required during the oxygenated fuels control period--could be used to offset gasoline with 1.5 weight percent oxygen intended for use in non-OPRG areas.

No comments were received on this proposed treatment of oxygen averaging for gasoline designated as OPRG versus non-OPRG, and this treatment is unchanged under today's rule.

In the 1993 proposal, EPA adopted the approach to VOC surveys and oxygen averaging suggested by this commenter. EPA has now reconsidered, and has included in the final rule a requirement for separate oxygen averaging for simple model VOC-controlled gasoline. The final rule retains the ``simple model'' VOC emissions reduction equation for use in gasoline quality surveys during the high ozone season, however. EPA agrees that the ``simple model'' VOC equation is appropriate for use in the VOC compliance surveys. This is because the surveys are designed to help ensure that the area in fact receives the VOC reductions required by the simple model RVP and oxygen per-gallon and averaging standards, where refiners and importers do not

need to demonstrate compliance on average beyond the refinery or importer level. If the surveys show compliance on average with the expected VOC reductions, then there would not be a need to ``ratchet'' the RVP or oxygen standards. However, the surveys are an enforcement and compliance tool, and do not replace the simple model standards themselves. Even if the surveys are passed, the separate RVP and oxygen content standards still apply under the simple model and refiners and importers must comply with them. Given the inherent limits on the frequency and number of VOC gasoline quality surveys they can not reasonably be treated as a substitute for the standards themselves. It is reasonable to require that a refiner or importer demonstrate compliance with the simple model oxygen content standards that apply under averaging.

Under this view, the purpose of the ``simple model'' VOC equation as used in VOC compliance surveys is to allow a slight variance in oxygen due to averaging, to be offset by a slight variance in RVP due to averaging, and vice versa. The ``simple model'' VOC equation is not intended to encourage refiners to employ a strategy of producing simple model VOC-controlled gasoline well below the oxygen standard, to be offset by gasoline well below the RVP standard. The simple model RVP and oxygen standards will still apply. Under the complex model separate oxygen averaging is not necessary for VOC-controlled gasoline, because there is a specific standard for VOC emissions performance that applies to reformulated gasoline. VOC emissions performance will be used under the complex model gasoline quality surveys.

b. Averaging and credits under the separate oxygen categories. Under the final rule, simple model reformulated gasoline designated as meeting the oxygen standard on average must meet the oxygen standard during the calendar year averaging period, and must meet this standard separately for VOC-controlled gasoline, and for non-OPRG gasoline.<SUP>57 This preamble section is intended to clarify the mechanism for meeting these overlapping oxygen requirements

within a single refinery or oxygenate blending facility, or for a single importer. In addition, this section is intended to clarify the manner in which oxygen credits may be created, transferred, and used.

\5\7 Non-OPRG reformulated gasoline is reformulated gasoline not intended for use in an oxygenated fuels control area during the oxygenated fuels control period.

There are four possible categories of reformulated gasoline for purposes of oxygen averaging and credits:

1. VOC-controlled, non-OPRG;

2. Non-VOC-controlled, non-OPRG;

3. Non-VOC-controlled, OPRG; and

4. VOC-controlled, OPRG.<SUP>58

\5\8One industry group commented that there will be no gasoline in the VOC-controlled, OPRG category. EPA disagrees with this conclusion.

VOC-controlled gasoline must be present in terminals in covered areas during the period May 1 through September 15. The oxygenated fuels control periods for areas that also are included in the reformulated gasoline program begin on October 1 or later, and last through either January or February, except for the New York City area, which lasts until April 30. Parties will supply OPRG gasoline to terminals in advance of October 1 in order to ``blend up" terminals to the oxygenated fuels standard by that date. If this OPRG gasoline arrives at terminals before September 15 (which likely will occur), the gasoline also would have to meet the VOC-control

standards; the product thus would be in the VOC-controlled, OPRG category. A similar situation will likely occur in the Spring in New York City, where parties will supply VOC-controlled gasoline to terminals in advance of May 1 in order to ``blend up'' terminals to meet the VOC-control standards by that date. This pre-May 1 gasoline thus would also be in the VOC-controlled, OPRG category.

The final rule does not require that each of these categories must separately meet the oxygen standard. Only VOC-controlled and non-OPRG gasoline must each separately meet the oxygen standard. As a result, the oxygen averaging standards must be separately met for the following three classes of gasoline:

1. All reformulated gasoline produced or imported, consisting of all four categories;

2. VOC-controlled gasoline, consisting of the VOC-controlled, OPRG; and VOC-controlled, non-OPRG categories; and

3. Non-OPRG gasoline, consisting of the VOC-controlled, nonOPRG; and non-VOC-controlled, non-OPRG categories.

In order for oxygen credit creation and use to be consistent with the separate classes of oxygen averaging, the creator/transferor of any credits must identify which of the four categories the credits represent. The user/transferee of credits must apply the credits to that same category, in order to determine if the oxygen averaging requirements have been met for the three classes specified above. By way of example, assume that Refiner A produced the following batches of reformulated gasoline, each of which was designated for average compliance for oxygen, and each of which was produced during the same calendar year:

Volume	Designations

Batch No.	(gallons)	Oxygen	VOCcontent controlled	OPRG
1	100	2.3	Yes	No
2	150	1.9	No	No
3	120	2.2	No	Yes
4	100	1.8	Yes	Yes
5	130	2.1	Yes	No
6	160	2.2	No	No
7	160	2.5	Yes	No

Refiner A then calculated the compliance total for oxygen for each of the four categories, by multiplying the volume of gasoline in that category times 2.1; and the actual total for oxygen for each category, by multiplying the volume of each batch in a category times the oxygen content of the batch, and summing the results for the category. The refiner's results are as follows:

	Categories			
	VOC-controlled, non-OPRG	Non-VOC-controlled, non-OPRG	Non-VOC-controlled, OPRG	VOC-controlled, OPRG
Compliance total	819	651	252	210
Actual total	903	637	264	180

Refiner A transferred 52 credits in the VOC-controlled, non-OPRG category to another refiner, and recalculated its actual total in that category to be 851.

Refiner A then calculated its compliance position with regard to each separate class of oxygen averaging, by calculating the compliance total and the actual total for the three classes of oxygen averaging: VOC-controlled, non-OPRG, and overall. The results of these calculations are as follows:

	Class of oxygen averaging

	VOC-control	Non-OPRG	Overall
Compliance total	1029	1470	1932
Actual total	1031	1488	1932
Net total	2	18	0

Because the actual total for oxygen is, for each class of oxygen averaging, equal to or greater than the compliance total, Refiner A has met the oxygen averaging standards.

For gasoline subject to the complex model, there are only two classes for oxygen averaging: non-OPRG, and overall. In consequence, oxygen credits must be placed into one of only two categories--OPRG, and non-OPRG. With these simplifications, oxygen credits for gasoline subject to complex model standards would be created, transferred, and use in a manner similar to the example described above. Because of the differences in oxygen categories for simple and complex gasoline, however, oxygen credits generated from gasoline subject to the complex model could not be used to achieve compliance for gasoline subject to the simple model.

3. NO<INF>X averaging

EPA proposed that the NO<INF>X complex model standard would be a 0% emissions performance increase under Phase I of the complex model before 2000. Under Phase II of the complex model beginning in 2000, EPA proposed a range of NO<INF>X standards, from a 0% emissions performance increase to a 15% emissions performance decrease. Averaging was not proposed as a compliance option for NO<INF>X. In the final rule, EPA has finalized the Phase II NO<INF>X standards, and has allowed for NO<INF>X averaging under both Phase I and Phase II. Under Phase I in the final rule, the NO<INF>X per-gallon standard remains at the proposed level of a 0% emissions performance increase. The final rule also provides an average standard for NO<INF>X compliance of a 1.5% emissions performance reduction, which is more stringent than the per-gallon standard, and with an associated pergallon minimum NO<INF>X

standard of a 2.5% emissions performance increase.

EPA believes that the most appropriate interpretation of section 211(k)(2)(A) is that the NO<INF>X emissions performance of reformulated gasoline should be at the level expected from a 0% NO<INF>X increase standard on a per-gallon basis. This approach guarantees no increase in NO<INF>X emissions, and is a reasonable interpretation of this provision. At the same time, EPA does not believe that NO<INF>X averaging is precluded in all cases under this provision. The text of section 211(k)(2)(A) is not explicit on this point, and the certification provision of section 211(k)(4) would appear to allow averaging over a slate of fuels.

The Phase I NO<INF>X averaging provisions are designed such that the average NO<INF>X performance of reformulated gasoline should be the same under either standard. Given this result, and the discretion afforded the Administrator in section 211 (k)(2)(A) and (k)(4), the NO<INF>X averaging provisions under Phase I complex model standards is a reasonable way to implement this statutory requirement. Under Phase II, the NO<INF>X standards are different for VOCcontrolled versus non-VOC-controlled gasoline. Non-VOC-controlled gasoline has the same per-gallon, average, and per-gallon minimum standards as under Phase I. The NO<INF>X standards for VOC-controlled gasoline under Phase II require a NO<INF>X reduction: A 5.5% emissions performance reduction in the case of the per-gallon standard, and a 6.8% emissions performance reduction in the case of the average standard. In addition, the average standard has an associated pergallon minimum NO<INF>X standard of a 3.0% emissions performance reduction. The rationale for requiring NO<INF>X reductions in conjunction with VOC-controlled gasoline under Phase II is discussed more fully in section VI of the preamble. The general approach used for setting the average NO<INF>X standards, and the per-gallon NO<INF>X minimums associated with the average standards, is the same as for other average

and per-gallon minimums/maximums for reformulated gasoline. The average standard is set at a level that is equal to the per-gallon standard plus the ``margin-of-safety" refiners would use to ensure compliance if only a per-gallon standard were allowed. EPA estimates this ``margin-ofsafety" would be 1.5% in the case of VOC and toxics emissions performance. In the case of NO<INF>X emissions performance, EPA estimates the ``margin-of-safety" also would be 1.5% during Phase I, but during Phase II would be 1.3%.

The per-gallon minimum is included in order to cap the averaging range. It is set at a level that is 2.5% less stringent than the pergallon standard in the case of VOC, toxics, and NO<INF>X emissions performance. Limiting the averaging range is one of the mechanisms included in the final rule to ensure each covered area receives reformulated gasoline that on average provides the air quality benefits Congress intended for reformulated gasoline. The relationship between per-gallon and average standards, and the need for per-gallon minimums and maximums, are discussed in the 1992 SNPRM at 57 FR 13455-13458. The final rule requires that the NO<INF>X averaging standards under both Phase I and Phase II must be met separately for gasoline and RBOB that is designated VOC-controlled and for gasoline and RBOB that is not designated as VOC-controlled. This separate averaging is necessary in order to ensure that the ozone reduction benefits deriving from the NO<INF>X reductions occur during the high ozone season. If the VOCcontrolled and non-VOC-controlled gasoline could be averaged together over the entire calendar year NO<INF>X averaging period, there is the possibility that gasoline in the non-VOC-controlled category could have sufficient NO<INF>X reductions that, through averaging, gasoline in the VOC-controlled category would not have the intended NO<INF>X reductions.

Separate NO<INF>X averaging for VOC-controlled and non-VOCcontrolled gasoline also is necessary to ensure that both the VOCcontrolled and the non-VOC-controlled categories of

gasoline comply with the no increase in NO<INF>X emissions performance instruction of section 211(k)(2)(A) of the Act. If VOC-controlled and non-VOCcontrolled gasoline could be averaged together, there is the possibility that the gasoline in one category or the other would have greater NO<INF>X emissions performance reductions than is required, with the consequence that the gasoline in the other category could have a NO<INF>X emissions performance increase. Requiring separate NO<INF>X averaging for VOC-controlled and non-VOC-controlled gasoline prevents this possibility.

In a departure from the general approach used for average standards, there is no gasoline quality survey prerequisite for use of the complex model Phase II NO<INF>X average standard for VOC-controlled gasoline. The gasoline quality surveys serve the purpose of ensuring that the minimum reformulated gasoline requirements of section 211(k) are met in each covered area when averaging is used. The minimum per gallon NO<INF>X reductions required under Phase II for VOC-controlled gasoline go beyond the minimum requirements of section 211(k), however, so there is certainty the minimum NO<INF>X requirements of section 211(k)(2)(A) (no NO<INF>X increase) will be met in each covered area without the need for surveys and possible ratchets.

F. Survey Issues

1. Ratchets of Simple and Complex Standards on Survey Failure Under the 1992 and 1993 proposals, and under the final rule, refiners, importers, and oxygenate blenders that meet standards on average must conduct gasoline quality surveys in reformulated gasoline covered areas; in the event of a survey failure for a parameter, the standards for that parameter are ``ratcheted'' to be more rigorous. Under the 1993 proposal, and under the final rule, VOC and toxics surveys consist of a simple model portion and a complex model portion. Also under the

1993 proposal, EPA proposed that in the event of a failure of either the simple or the complex model portions of a VOC or toxics survey, that both simple and complex model VOC and toxics standards would be ratcheted <SUP>59

\5\9 Surveys for benzene and oxygen include both simple and complex model samples, because the measurements for these fuel parameters are not dependent on the simple or the complex models. As a result, failure of a benzene survey results in ratchets of the benzene standard under both the simple and the complex models; and the failure of an oxygen survey results in ratchets of the oxygen standard under both the simple and the complex models.

One industry group commented on this proposal to ratchet both simple and complex standards, stating that instead of EPA's proposed approach, a failure of the simple model portion of a survey should result only in a ratchet of simple model standards, and vice versa. The commenter's concern was that ratchets of both the simple and complex standards, when only one survey type is violated, would be unnecessary to achieve the surveys' purpose--to ensure gasoline quality fluctuations due to averaging do not result in gasoline quality in any covered area that is ``dirtier'' than it would be if all gasoline was certified to the per-gallon standards. With the exception of simple model VOC and toxics survey failures that occur in 1997, discussed below, EPA generally agrees with this comment. Deficiencies in gasoline quality that are identified by the surveys are corrected (prospectively) through ratchets of average and maximum standards that occur only for the class of gasoline (simple or complex) for which a survey is failed. Survey failures also are prevented through quality assurance measures implemented by refiners and importers intended to prevent survey failures and ratchets, and such measures probably would not be different if ratchets occur only for the class of gasoline for which a survey is failed. The exception to this ratchet approach in the case of simple model

VOC and toxics survey failures in 1997 occurs because a ratchet of the simple model standard in such a case would not constitute an incentive to refiners or importers to prevent survey failures of this type. Use of the complex model is mandatory beginning on January 1, 1998; subsequent to this date, the simple model standards may no longer be used. As a result of this timing, any failure of a simple model VOC or toxics survey in 1997 would have no consequence if only the simple model standards are ratcheted, because ratcheted standards become applicable only in the year subsequent to the year of the survey failure. Therefore, unless both the simple and complex model standards ratchet in the event of a simple model VOC or toxics survey failure in 1997, refiners and importers will have no incentive to take steps to avoid simple model survey failures in the year before the complex model becomes mandatory.

The final rule has been modified to reflect this approach to survey ratchets.

2. The (Limited) Intra-Covered Area Averaging Alternative to Surveys Section 211(k)(7) of the Act states that the reformulated gasoline regulations shall provide for granting oxygen and benzene credits to persons who produce gasoline that exceed the standards for these parameters, providing for certification of gasoline based on such credits where they are used within the same covered area as they are generated, and requiring that the use of credits not result in average oxygen or benzene levels that are worse than would occur if no credit provisions were allowed. This is the statutory basis for including benzene and oxygen credits in the proposals and in the final rule. EPA believes these provisions are satisfied by refinery-based averaging combined with compliance surveys, but also believes they would allow a refiner or importer to meet the reformulated gasoline standards for oxygen and/or benzene (but not for other parameters) on average if the party is able to demonstrate the gasoline it produces or imports, and uses within a single covered area, meets the oxygen or benzene standards on average. To the extent section

211(k)(7) provides for such intra-covered area averaging, it would be allowed without the need for the gasoline quality surveys that are the general prerequisite for averaging.

In order to give regulatory effect to this averaging aspect of section 211(k)(7) of the Act, EPA proposed regulations that would allow intra-covered area averaging without meeting the survey requirements. The proposal would have allowed this averaging approach for all parameters that may be averaged. The proposal did not, however, include enforcement mechanisms intended to ensure a party choosing this option does so properly, such as mechanisms to ensure, and document, the gasoline in question is used only in a single covered area, such as recordkeeping, reporting, or quality assurance requirements. EPA generally has retained this averaging option in the final rule in section 80.67(a)(2), but with several modifications. The final rule restricts the non-survey averaging option to oxygen and benzene only. This restriction is included because EPA intends to limit its application only to those parameters included in section 211(k)(7) of the Act. In addition, EPA has included in the final rule the requirement that any party intending to use the non-survey averaging option must first obtain approval from EPA through a petition process. The final rule specifies that the petition must describe in detail the mechanisms the refiner or importer will use to ensure that the gasoline in question is in fact produced by the refiner or imported by the importer, and is used only within the covered area and in no other attainment area or covered area. The petition also must describe the recordkeeping, reporting, auditing, and other quality assurance measures the party will use to document and report the quality of the gasoline used in the covered area.

The petition would be expected to address mechanisms to establish with certainty the properties of the gasoline used in the covered area, and mechanisms to ensure the gasoline delivered for use in the covered area is not transported by a transferee of the gasoline (e.g., a

truck distributor) for use in an adjoining attainment area or in another covered area. To the extent any of a party's gasoline is mixed with gasoline produced by another refiner or imported by another importer in the fungible gasoline distribution system, EPA believes the party would have serious difficulty achieving the product tracking certainties required for intra-covered area averaging. EPA believes this intra-covered area averaging approach will have very limited, if any, application, because it requires precise tracking of the quality of gasoline that is produced by a single refiner or is imported by a single importer and used within a single covered area. It was the great difficulty in this type of gasoline tracking, voiced by refiners and downstream segments of the gasoline distribution system, that gave rise to the general reformulated gasoline averaging approach included in the final rule--of refinery-level averaging combined with covered area gasoline quality surveys. Having established mechanisms to accomplish averaging on a nationwide basis, EPA believes it should sanction separate, intra-covered area averaging only if there is complete certainty the intra-covered area approach can be carried out successfully and in a manner subject to full enforcement oversight. EPA further believes the petition-approach included for intra-covered area averaging is the best means of accomplishing this certainty, without promulgating an additional extensive regulatory scheme.

G. Conventional Gasoline Marker

EPA's proposed intent to designate the chemical phenolphthalein as the required marker for conventional gasoline has been subjected to reconsideration on the basis of phenolphthalein field tests conducted using the gasoline pipeline operated by the Amoco Oil Company in Mandan, North Dakota by the American Petroleum Institute and Amoco. The results of those field tests suggest that phenolphthalein may not perform to EPA's expectations for reliably distinguishing conventional gasoline from reformulated gasoline. Specifically, the field tests suggest that

phenolphthalein does not adequately mix with conventional gasoline and may act to contaminate water, metal surfaces and/or other petroleum products.

Accordingly, EPA has elected not to issue a final rule governing conventional gasoline markers at this time. Instead, EPA has undertaken further investigation of alternative markers with interested petroleum and chemical companies. EPA intends to publish a new proposal for the conventional gasoline marker, and to promulgate a final conventional gasoline marker rule based on this proposal. Interested parties will have the opportunity to comment on this proposal.

H. Responsibilities of Refiners and Oxygenate Blenders

The introduction to this Preamble section describes the various responsibilities of refiners and oxygenate blenders under the reformulated gasoline program. Comments were received requesting clarification of the requirements that would apply in a case where more than one party is involved in a refinery or oxygenate blending operation.

The final regulations define the terms ``refiner,'' ``refinery,'' ``oxygenate blender,'' and ``oxygenate blending facility."<SUP>60 The definition of ``oxygenate blender'' includes a party that owns or controls the blendstocks or gasoline used or the gasoline produced at an oxygenate blending facility. This definition is necessary in recognition of the practice of blendstock owners to specify the type and amount of oxygenates to be added by another party. Because the blendstock owner thus exercises control over the blending operation and affects the qualities of the finished gasoline, it is appropriate to include the product owner within the definition of oxygenate blenders and to impose responsibility for regulatory compliance on that party with substantial control over the quality of the final product.

\6\0 Section 80.2(h) defines refinery as ``a plant at which gasoline is produced."

Section 80.2(i) defines refiner as ``any person who owns, leases, operates, controls, or

supervises a refinery." Section 80.2(ll) defines oxygenate blending facility as ``any facility (including a truck) at which oxygenate is added to gasoline or blendstock, and at which the quality or quantity of gasoline is not altered in any other manner except for the addition of deposit control additives."

Section 80.2(mm) defines oxygenate blender as ``any person who owns, leases, operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstocks or gasoline used or the gasoline produced at an oxygenate blending facility."

As a result of these definitions, there may be situations where more than one person meets the definition of refiner or oxygenate blender for a single refinery or oxygenate blending facility. For example, at an oxygenate blending facility there may be one person who owns the RBOB and oxygenate and causes those products to be combined to produce reformulated gasoline (who also could be a distributor or reseller), another person who owns the gasoline storage tanks in which the RBOB and oxygenate are combined (who also could be a truck or terminal carrier), and still another person who operates and controls the blending equipment at the facility on a day-to-day basis. Each of the parties described in this example independently meets the definition of oxygenate blender for the oxygenate blending facility described. A similar scenario, with more than one person meeting the definition of refiner, is possible in the case of a refinery. The final rule provides that each person meeting the definition of refiner or oxygenate blender is independently responsible that standards and other requirements that attach to a refining or oxygenate blending operation must be met. This is the same requirement that attaches in other motor vehicle fuel regulatory programs. For example, under the gasoline lead phasedown program, in cases where the lead phasedown standard is violated as a result of excess average lead content of gasoline produced, EPA holds each person meeting the refiner definition liable;

and under the gasoline volatility program, in cases where the volatility standard is violated as a result of improper oxygenate blending, EPA holds each person meeting the definition of oxygenate blender liable.

However, as in other motor vehicle fuel regulatory programs, EPA intends to exercise its enforcement discretion and not seek to hold liable parties meeting a definition in relation to a batch of gasoline that chose to jointly meet the requirements of the final rule. In practice, therefore, each requirement pertaining to an individual batch of gasoline must be met only once. For example, the determination of properties, independent sampling and testing, compliance audits, testing of RBOB, record keeping and reporting requirements, and oxygenate blender quality assurance programs need not be met separately by each person who meets the refiner or oxygenate blender definition with respect to a specific batch of gasoline or blendstock. Rather, within the exercise of EPA's enforcement discretion, each party is individually responsible for ensuring that each requirement is met at least once for any specific batch.

For example, EPA would exercise its enforcement discretion and not seek to impose liability on a party that meets the definition of oxygenate blender that does not separately sample and test the gasoline produced or separately submit reports to EPA relating to a specific batch of gasoline, as long as some party with equivalent standing (an oxygenate blender) does conduct the required sampling and testing and does file a valid annual report. However, each person meeting the definition of oxygenate blender in this example is individually responsible that the required sampling and testing occurs and that the required reports to EPA are submitted. EPA anticipates that the people involved in a refining or oxygenate blending operation will discuss among themselves who will be responsible for each of the regulatory requirements. In most cases, EPA anticipates that the product owner will take the lead in satisfying requirements,

though the allocation of these responsibilities is strictly within the province of the regulated parties involved. If a refinery or oxygenate blending facility requirement is accomplished by one person, EPA will consider the requirement to have been accomplished by each person who meets the definition of refiner or oxygenate blender. If a refinery or oxygenate blending facility requirement is not properly accomplished, however, EPA will consider the lapse to be a violation by each person who meets the definition of refiner or oxygenate blender. Similarly, if a standard applicable to the refinery or oxygenate blending facility is not satisfied, EPA will consider each person who meets the definition of refiner or oxygenate blender to have failed to satisfy the relevant standard. EPA anticipates that reformulated gasoline and RBOB will be produced exclusively, or almost exclusively, at the refinery at which the blendstocks are produced from crude oil, due to the complexities inherent in producing reformulated gasoline and RBOB. EPA believes it will be very difficult for a downstream party to obtain blendstocks with the specific mixtures of properties such that the blendstocks may be blended together to produce gasoline meeting the standards for reformulated gasoline or RBOB.

However, if such downstream blending-refining does occur, all requirements attaching to refiners apply to all parties meeting the definition of a ``refiner". Note that, if blendstocks are combined with reformulated gasoline, the reformulated gasoline standards must be met on the basis of the volume and properties of the blendstocks only and compliance may not rely on the properties of the reformulated gasoline to which the blendstock is added. In addition the resulting reformulated gasoline/blendstock mixture must meet all reformulated gasoline standards. In the event any party attempts downstream blending-refining of reformulated gasoline or RBOB, EPA intends to scrutinize the operation closely.

Commenters expressed concern that, where the oxygen standard is being met on an average

basis, all persons who satisfy the oxygenate blender definition may not have access to the information necessary to know that this standard is being met in fact. This issue was of particular concern for oxygenate blenders who are carriers, where the normal business practice is to blend oxygenate according to the instructions of the product owner-oxygenate blender. The final rule provides that oxygenate blenders will be held liable, inter alia, for reformulated gasoline produced for averaged compliance that is determined to exceed the minimum and/or maximum standards. The final rule also prohibits the sale, by any person, of gasoline that violates, inter alia, a refiners' averaged compliance with the standards.

Oxygenate blenders have direct control over whether a specific fuel meets the minimum and/or maximum requirements of the reformulated gasoline program. Blenders have no control over whether that fuel is being produced to comply with per-gallon or averaged standards. Where gasoline is designated for oxygen compliance on a per-gallon basis, the blender may take steps to ensure that 2.0 weight percent oxygen is added to each batch of gasoline produced. Where gasoline is produced to averaged compliance, the blender is precluded from independent knowledge of whether the average will be met. EPA appreciates this dilemma faced by parties downstream of a refiner achieving compliance on average. However, EPA believes both that the requirements that blenders be held potentially liable for selling averaged gasoline that fails to meet the averaged standard is necessary and that adequate safeguards are available. Potential liability is necessary to effectively prevent the sale and distribution of non-complying product by downstream parties which possess any opportunity to prevent the product from being released into the environment.

For example, if a carrier-oxygenate blender receives instructions to add less than 2.00 weight percent oxygen to RBOB (the per-gallon oxygen standard), the carrier should obtain the

assurance of the product owner, in writing if possible, that the reformulated gasoline being produced meets the oxygen standard on average. If a violation of the average oxygen standard occurs involving gasoline produced by the carrier-oxygenate blender, and the carrier-oxygenate blender can demonstrate that it made this inquiry in good faith and received an appropriate assurance, EPA will exercise its enforcement discretion and not hold the carrier-oxygen blender liable for the standard violation unless the carrier knew, or should have known, the oxygen standard would not be met on average. This type of inquiry and assurance would be no defense for oxygenate blended outside the per-gallon minimum/ maximum standard, however.

I. Prohibitions, Liabilities and Defenses

1. Prohibitions

The final rule contains certain prohibitions that apply to all parties in the gasoline distribution network, that address the pergallon minimum and maximum standards for reformulated gasoline and the restrictions related to the time and place of use for reformulated gasoline. Also prohibited for every party are, inter alia, the addition of oxygenate to reformulated gasoline (except reformulated gasoline that is designated for use in an oxygenated fuels program during the oxygenated fuels control period); the combining of reformulated gasoline produced using ethanol with reformulated gasoline produced using another oxygenate during the period May 1 through September 15; and (during 1995 through 1997) the combining of reformulated gasolines or RBOBs subject to complex model standards unless the constituent reformulated gasolines or RBOBs have identical baselines. The final rule also prohibits all parties, other than retailers and wholesale purchaser-consumers, from combining reformulated gasoline or RBOB subject to simple model standards with reformulated gasoline or RBOB that is subject to complex model standards during 1995 through 1997.

The rational for these prohibitions are discussed separately in the preamble sections dealing with the specific topics which result in the prohibitions.

EPA received comments on its proposal to prohibit any party from transporting, storing, dispensing, selling, or supplying reformulated gasoline that does not meet a reformulated gasoline certification. The commenters were concerned that only gasoline that meets all reformulated gasoline standards would be ``certified,'' and that, as a result of averaging, parties downstream of the refinery would have no way of knowing if a particular batch of gasoline was produced to meet standards.

EPA agrees with this comment, and has modified the final rule to limit the downstream prohibition involving reformulated gasoline properties to the per-gallon minimum and maximum standards that apply to all reformulated gasoline, regardless of whether the gasoline is produced to the per-gallon or average standards.<SUP>61 As a result, downstream parties may determine if any particular gasoline batch meets the per-gallon minimums and maximums through sampling and testing. Moreover, EPA inspections conducted downstream of the refinery/importer will monitor compliance with the per-gallon minimums and maximums, and not compliance with the standards that apply to refiners and importers.

\6\1For example, the refiner/importer benzene standard is 1.00 volume percent if met on a per-gallon basis, or 0.95 volume percent if met on average with a 1.30 volume percent per-gallon maximum. As a result, no gallon of gasoline may have a benzene content greater than 1.30 volume percent, regardless of whether the gasoline is produced or imported to the per-gallon or average standard. This 1.30 benzene maximum thus may be enforced against downstream parties.

EPA's proposal would also prohibit refiners and importers from producing or importing reformulated gasoline that does not meet reformulated gasoline standards. Several commenters

observed that the production alone of reformulated gasoline or RBOB that fails to meet required standards does not cause environmental harm, because the product may be corrected before it leaves the refinery. EPA generally agrees with this comment, and has adjusted the regulatory language to clarify that the prohibition against the production of reformulated gasoline that fails to meet standards applies only to gasoline that is intended for sale or use. During the course of any inspection at a refinery or import facility, EPA will rely on the documentation used by a refiner or importer to determine if any particular gasoline is ``finished'' and therefore is intended for sale or use, or is an ``unfinished'' product for which the refiner or importer intends additional blending.

Accordingly, the final rule prohibits the manufacture, sale, offering for sale, distribution, dispensing, supplying offering for supply, transporting or causing the transportation by refiners and importers of finished gasoline ``intended'' for sale or use where such gasoline fails to meet reformulated gasoline standards. This approach is consistent with EPA's approach under the Lead Phasedown, Fuel Volatility and Diesel Desulfurization Programs. 2. Liabilities

a. General. The final rule provides that where the gasoline contained in a storage tank at any facility owned, leased, operated, controlled or supervised by any refiner, importer, oxygenate blender, carrier, distributor, reseller, retailer, or wholesale purchaserconsumer is found in violation of the prohibitions, most parties involved in the chain of distribution upstream of the facility found in violation are presumed liable for the violation. Carriers are presumed liable for violations arising from product under the control and/or custody of the carrier at the carrier's facility, and for violations at any facility where EPA demonstrates that the carrier caused the violation. Carriers who meet the definition of refiner or oxygenate blender have the same liabilities and defenses as any other refiner or oxygenate blender. The final rule also provides defenses against liability for each person presumed liable. These defenses are discussed below.

For a more detailed discussion of the rationale for the liabilities and defenses established by this rule, see EPA's proposal at 57 FR 13470-13473 (April 16, 1992).

One commenter stated that where gasoline in a storage tank is in violation of the regulations, EPA should either narrow the range of persons presumptively liable or expand the availability of affirmative defenses. The comment is based on the normal industry practice of commingling products in common storage tanks, the number of fuel manufacturers that would be involved, the likelihood of commingling, the absence of quantitative thresholds, and the absence of a requirement that individual parties exercise sufficient control over the contents of the tank. Another commenter queried what distinguishes this program from other fuels programs which did not impose such presumptive liability.

EPA has had extensive experience in enforcing other motor vehicle fuel programs under 40 CFR part 80, including the unleaded gasoline and gasoline volatility programs and the recent diesel sulfur program. Each of these other fuels programs include presumptive liability schemes that are very similar to the presumptive liability scheme proposed for reformulated gasoline.

The liability and defense provisions of this rule are structured similarly to those adopted by EPA in its prior motor vehicle fuel programs, including the controls on leaded and unleaded gasoline, gasoline volatility and diesel fuel desulfurization. For those programs, EPA's regulations identify various persons who are presumed liable when violations are detected at various points in the motor fuel distribution system. For example, 40 CFR 80.28 identifies those persons responsible for violations of the gasoline volatility regulations when a violation is detected at refiner or importer facilities (Sec. 80.28(a)), at carrier facilities (Sec. 80.28(b)), at branded distributor facilities, reseller facilities, or ethanol blending plants (Sec. 80.28(c)), at unbranded distributor facilities and ethanol blending plants (Sec. 80.28(d)), at branded retail

outlets or wholesale purchaser-consumer facilities (Sec. 80.28(e)), and at unbranded retail outlets or wholesale purchaser-consumer facilities (Sec. 80.28(f)). In general, all persons who could have caused a violation at a facility are presumed to be liable for the violation detected at the facility. At branded facilities the refiner is also presumed liable based on their ability to exercise a degree of control at these facilities. Various affirmative defenses are afforded to persons presumed liable, and in all cases the presumptions of liability are rebuttable. 40 CFR 80.28(g). The affirmative defenses typically involve showing (1) that the person did not cause the violation, (2) that they either conducted tests showing the gasoline was in compliance when they transferred it to the next person in the distribution system, or that they received proper documentation when they received the gasoline and conducted a sufficient quality assurance sampling and testing program. Additional elements of an affirmative defense must be shown by refiners when a violation is detected at a branded outlet. A detailed discussion of the reasons for the gasoline volatility liability defense provisions can be found at 54 FR 11872 (March 22, 1989). The regulations adopted for the reformulated gasoline program follow this same general structure. For example, if the gasoline in a storage tank, or at any other point in the distribution system, is found to be in violation of the requirements, then the following persons are presumed liable: All persons (including carriers) who own, lease, operate, supervise or control the facility; all persons other than carriers who manufactured, sold, transported, or dispensed the gasoline found at the facility; carriers who dispensed, transported, supplied or stored the gasoline where EPA can show they caused the violation; and the refiner or importer whose brand name is displayed at the facility, if any. They will not be deemed liable if they can show (1) they did not cause the violation, (2) that product transfer documents indicate the gasoline in question met all relevant requirements, and (3) they conducted a sufficient quality

assurance program. Additional elements must be shown by refiners or importers for violations at branded facilities.

The rationale for assigning a presumption of liability to all contributors to a batch of noncomplying fuel is that, as with gasoline volatility and the other motor vehicle fuel programs, EPA is in a particularly poor position to know who caused a violation that is detected at a point in the distribution system. In the case of a violation found at a retail station, for example, the retailer often will say it has no control over the quality of the gasoline delivered by the distributor (or by more than one distributor) and did nothing to cause the violation; the distributor will say it has no control over the quality of the gasoline provided by the terminal and did nothing to cause the violation; the terminal will say it only supplies the gasoline received from the pipeline and did nothing to cause the violation, etc. EPA normally lacks the information necessary to establish the cause of the violation because its inspectors were not present when the gasoline in question moved through the distribution system; yet EPA has a sample that is, in fact, in violation. In contrast to EPA, the parties responsible for the facility, or for supplying the gasoline contained at a facility found to be in violation are, collectively, in the best position to determine the cause of the violation. It is these parties who are presumed liable. The presumption of liability normally has the desired effect of forcing the presumptively liable parties to cooperate in identifying the violation's cause, which both resolves the issue of liability for the party or parties actually responsible for the violation and establishes defenses against liability for parties not responsible. In addition, branded refiners or importers are presumed liable based on the degree of control such refiners or importers have over gasoline that is sold under their brand name.

The likelihood of commingling, the absence of quantitative thresholds, the degree of control exercised by the branded parties presumed liable, and the reasonableness of a presumption of

liability for parties involved with the production or distribution of the gasoline discovered in violation is the same for the reformulated gasoline program as it is for the gasoline volatility and other motor vehicle fuel programs. In both cases, EPA is confronted with a fungible gasoline distribution system, with various persons either involved with the production or distribution of the noncomplying gasoline, or exercising some degree of control over the downstream facility where the violation was detected. In both cases EPA is not reasonably able to locate the cause of the violation, and the regulations reasonably require the parties involved with the noncomplying gasoline and facility to bear the burden of locating the cause of the violation. EPA has included in the final rule liability for branded importers for violations found at facilities at which that importers' brand name is displayed. This liability is parallel with the liability presumption that attaches to branded refiners for violations found at branded facilities. This change from the proposed liability scheme is included because the absence of liability for branded importers created a potential gap in the regulatory scheme. If any party meets the definition of a branded importer, it is reasonable that they be treated equally with branded refiners.

Moreover, EPA does not believe the scope of the liability provisions should be narrowed. The scope of parties presumed liable is designed to ensure that each party in the reformulated gasoline production and distribution system with any opportunity to affect the quality of the fuel may be held accountable for noncomplying fuel. Otherwise, the substantial economic incentives associated with cheating under this program would result in the exploitation of gaps in the scope of coverage.

As a result, EPA declines to adjust the range of parties presumptively liable for commingled fuels violations or to adjust the affirmative defenses.

Certain commenters requested clarification of the volume of gasoline a party must contribute

to a non-complying storage tank to create the presumption of liability. EPA's April 1992 proposal would hold each party responsible for a violation detected at a storage tank, or at any other point in the gasoline distribution system, if the party was involved with any of the noncomplying gasoline. This would include distributors for the most recent delivery, and in most cases would also include distributors for the several prior deliveries. See 57 FR 13471 (April 16, 1992). Commenters requested clarification from EPA as to what was meant by ``several deliveries." EPA has retained the proposed language that assigns presumptive liability to any party that contributes ``any gasoline" to the noncomplying gasoline in the batch or storage tank. There is no single de minimis volume that would be appropriate in every situation. In addition, there is no single number of deliveries that would identify the source for all noncomplying gasoline present in the batch or storage tank yielding the noncomplying sample. EPA will evaluate the issue of non-causation as a result of a small volume contribution to a non-complying storage tank on a case-by-case basis. One commenter observed that a downstream party receiving noncomplying product would be obliged to store the product until the owner of the product determines a solution. The commenter recommended that a party storing nonconforming product that has been properly redocumented stating its actual characteristics should not be penalized. EPA generally agrees with this comment. The final rule prohibits, inter alia, the distribution, transportation, storage or sale (or offer to sell) of noncomplying product represented as reformulated gasoline and intended for sale or use in any covered area. EPA will assume, absent countervailing evidence, that all gasoline found in the United States is intended for domestic sale or use and thus subject to the reformulated gasoline or anti-dumping rules. Countervailing evidence to overcome this assumption with regard to a specific tank of gasoline would include a showing of the following: demonstrate that the gasoline is clearly identified as

noncomplying product; that the noncomplying gasoline is segregated from other gasoline; that the storage tank containing the gasoline has been clearly designated as product unavailable for sale or distribution; that the noncomplying gasoline in fact has not re-entered the distribution system; and that the gasoline is redirected toward a process of bringing the gasoline into compliance. A party storing noncomplying gasoline meeting this burden would not be in violation of the prohibitions contained in today's rule.

b. Carriers. EPA received a variety of comments objecting to the imposition of presumptive liability on carriers. Several commenters argued that the prohibitions contained in section 211(k)(5) of the Act identify refiners, blenders and marketers as the regulated parties under the reformulated gasoline and antidumping programs, but does not specifically name carriers. Section 211(k)(1) authorizes EPA to ``promulgate regulations * * * establishing requirements for reformulated gasoline * * *.'' This broad grant of authority is the principal source of authority for the regulatory structure adopted for the reformulated gasoline program, along with the various specific requirements and authorizations found in other paragraphs in section 211(k). EPA has determined, in exercising this authority, that the most appropriate structure for this program is one which provides for the regulation of reformulated gasoline from its point of production or importation to its eventual transfer to the ultimate consumer.

First, EPA's experience with various other motor vehicle fuel regulations, promulgated under section 211(c) of the Act, indicate that this is critical to the success of the program. This is based on the fungible nature of the gasoline distribution system, the complex interrelationships between the various parties involved in producing and marketing gasoline, and the large number of different parties that will be involved in bringing reformulated gasoline to the market. Second, the reformulated gasoline program includes a complex mixture of requirements, involving the

regulation of several different gasoline components as well as the emissions performance of the gasoline. A cradle-to-grave approach is necessary to ensure that the air quality benefits from this program are actually achieved in use, given the large number of parties who will have custody or control of a batch of reformulated gasoline, and the potential that their actions could adversely affect the emissions reductions expected from the reformulated gasoline program. This could occur, for example, because the quality of gasoline has been changed, or because it has been dispensed or used at an improper time or place. For these reasons, EPA believes that it is proper to regulate all parties involved with the production, distribution and sale of reformulated gasoline. At the same time, EPA has assigned different responsibilities to different parties in the production and distribution system. EPA proposed and has decided to adopt final rules including carriers as a regulated party, and assigning them responsibilities commensurate with their unique role in the gasoline distribution system. EPA believes this is a reasonable exercise of its broad grant of authority under section 211(k)(1).

EPA has determined that the regulation of carriers--pipelines, barge operators or truck carriers--is necessary to accomplish the goal of cradle-to-grave oversight monitoring and enforcement. This determination is based on the potential for carriers to cause violations of the reformulated gasoline regulation, the need to impose a duty on carriers to exercise care in transporting or storing reformulated gasoline, and the need for EPA to be able to determine the source of violations within the program. For example, carriers possess the potential to cause violations of this program by commingling inappropriate grades of gasoline, delivering conventional gasoline into a covered area, or by carrying non-VOC controlled gasoline in a storage facility over from a non-VOC control period into a VOC control period and selling or distributing that product. In each of these examples, the carrier would be directly responsible for

involved in the gasoline distribution system, a generic phrase with a catch-all meaning. See sections 211(h)(4), 211(1) and 211(m)(2). As used in those provisions, the scope of the term may be broader or narrower, depending on how detailed Congress made the list of parties covered by each provision. For example, the long list of parties referenced in section 211(h)(4) makes it clear that ``marketer'' as used there means an undefined category of persons other than distributors, blenders, resellers, carriers, retailers, or wholesale purchaser-consumers, while in sections 211(1) and (m)(2) the term means an undefined category of persons other than refiners. The legislative history for section 211(k) fails to shed any light on Congress' intent. The generally accepted meaning of the term ``marketer'' is ``one that deals in a market.'' Webster's Ninth New Collegiate Dictionary (1990). A carrier would reasonably fall within this definition. Given the lack of a clear definition in the Act for this vague term, the indications that Congress intended it to have a somewhat broad, catchall meaning, and the reasons provided above supporting EPA's inclusion of carrier's as regulated parties in the reformulated gasoline program, EPA has reasonably determined that carriers are included in the term ``marketer'' as it is used in section 211(k) of the Act. Various commenters claimed that it was inappropriate to impose a presumption of liability on carriers, based on their unique circumstances. They noted that carriers do not take title to or own the gasoline, have contractual obligations to maintain the integrity of the shipment, only act in accordance with instructions from the product owner, and have incentives to not tamper with the product, as it would expose them to liability and would prejudice their relationships with both the shipper and purchaser. Commenters stated that carriers lack any economic incentive to violate the reformulated gasoline requirements, and any action that does not violate these requirements is only in response to the gasoline owner's instructions. Commenters also stated that carriers cannot refuse such instructions except for clear violations of

the law.

Barge operator-carriers noted that the risk of accidental contamination for barge operator-carriers is virtually nonexistent due to contract obligations to maintain cargo integrity and the product testing that occurs before and after shipping. They also argued that the volume of product in a barge-tank would dilute any trace contaminants such that there was no practical risk of a violation of the reformulated gasoline requirements from contamination. EPA recognizes that carriers occupy a role that is somewhat unique in the gasoline distribution system. In general, EPA agrees that there is limited economic incentive for carriers to tamper with the quality of gasoline, in that carriers do not own the gasoline they ship or store and would not profit by taking advantage of the price differential between complying and noncomplying gasoline. At the same time, there are still significant opportunities for carriers to directly cause violations of the reformulated gasoline program. For example, a carrier's delivery territory may span a boundary between an area requiring reformulated gasoline and an area that may receive conventional gasoline. Misdelivery of conventional fuel into the reformulated gasoline covered area would be a violation of the prohibitions of the reformulated gasoline program. Other situations where a carrier can cause a violation include a terminal-carrier or truck-carrier who mixes conventional gasoline and reformulated gasoline and transfers the resulting gasoline as reformulated; who mixes reformulated gasoline designated as VOC-controlled with non-VOCcontrolled gasoline and transfers the resulting gasoline as VOCcontrolled; who delivers gasoline designated for use in VOC-Control Region 1 to a retail outlet located in VOC-Control Region 2; who mixes oxygen program reformulated gasoline (OPRG) and non-OPRG reformulated gasoline and transfers the mixture as OPRG; or who mixes simple and complex model reformulated gasoline. In these examples, EPA would hold the carrier liable if the carrier

improperly delivered the gasoline or mixed the gasolines that should have been segregated. Note that the gasoline owner in each of these examples also would be presumed liable for the violation.

Based on these circumstances, the presumption of liability assigned to carriers is much more limited than that assigned to any other regulated party. Like other parties, a carrier is liable for violations that occur at its own facility. However, unlike other regulated parties, carriers are not liable for violations detected at other facilities, unless EPA can show that the carrier caused the violation. This is a significant reduction in the scope of the presumption of liability as compared to the scope proposed for carriers, and reflects EPA's balancing of the unique characteristics noted by carriers and the need to prevent carriers from adversely affecting the characteristics of reformulated gasoline. This parallels the presumption of liability for carriers adopted by the Agency in the gasoline volatility regulations, and approved by the court in National Tank Truck Carriers, Inc. v. U.S.E.P.A., 907 F.2d 177 (D.C. Cir. 1990). EPA acknowledges that carriers may operate on the instructions of the product owner. In fact, several commenters suggested that carriers are obligated to not deviate from the owner's instructions regardless of whether those instructions are consistent with the reformulated gasoline rules.

However, the Interstate Commerce Commission<SUP>62 has advised EPA that carriers are not obligated to store or transport gasoline in a manner that violates applicable laws. The ICC view of carrier obligation allows carriers to self-determine which loads they will store or carry. The ICC also observed that a carrier's obligation to accept tenders is superseded by an obligation to comply with applicable law, including regulations that implement the Clean Air Act Amendments of 1990. Accordingly, carriers are not placed in an untenable position by refusing to store or transport gasoline that does not comply with the reformulated gasoline requirements.

\6\2Per telephone conversation with Charles Wagner, Deputy Director, Operations and

Enforcement Section, Office of Compliance and Consumer Assistance, Interstate Commerce Commission

c. Carriers acting as refiners or oxygenate blenders. The final rule provides for a presumption of liability for violations found downstream of a refinery or oxygenate blending facility for all persons who meet the definition of refiner or oxygenate blender, including carriers who meet this definition <SUP>63

\6\3 Liabilities and defenses for refiners and oxygenate blenders are discussed generally in the section on refiners and oxygenate blenders above.

A presumption of liability is necessary in the case of a carrier acting as a refiner or oxygenate blender because in both cases the carrier plays a significant role in the actions that establish or change the quality of reformulated gasoline. For example, the practice of splash-blending oxygenates and gasoline in gasoline delivery trucks is a common form of gasoline blending, and the trucks used for splash blending often are operated by truck carriers. Frequently, the carrier truck driver directly controls the volumes of gasoline blendstock and oxygenate that are combined in the truck. In consequence, the carrier is directly responsible for the quality of the finished gasoline in such a splash-blending operation.

Commenters observed that in other fuel regulatory programs, carriers acting as refiners or oxygenate blenders are specifically excepted from presumptive liability for violations determined at facilities downstream from the refinery or oxygenate blending facility. This is not accurate. Carriers who meet the refiner or oxygenate blender definition are treated the same under the reformulated gasoline regulations as under other motor vehicle fuel programs. The definition of a ``refiner'' is consistent throughout EPA's fuel regulatory programs, and in all these programs a carrier who meets the refiner definition is subject to the same liability as any other

person who meets the refiner definition. Oxygenate blenders are simply a subcategory of refiners who produce gasoline only by oxygenate blending. As a result, carriers acting as oxygenate blenders are regulated consistently with any other oxygenate blender under the program. Carrier-commenters argued that the owner of the gasoline and oxygenate used in an oxygenate blending operation should be responsible for meeting the requirements for sampling and testing, compliance record keeping, reporting and auditing, because only the owner can remedy violations. For the reasons discussed in the refiner and oxygenate blender section of this preamble, EPA has determined that each person who meets the oxygenate blender definition is individually responsible for ensuring that the requirements that attach to an oxygenate blending operation are met. However, as discussed above, carrier-oxygenate blenders and product owner-oxygenate blenders may reach agreements on the allocation of responsibilities for meeting the oxygenate blending requirements within the scope of EPA's enforcement discretion.

3. Defenses

The final rule specifies that a regulated party may rebut the presumption of liability by demonstrating (1) that it did not cause the violation, (2) that the product transfer documents account for all the gasoline in question and indicate that the product complied with all applicable standards, and (3) that the party conducted an acceptable quality assurance program of periodic sampling and testing. When a non-complying product is found at a facility operating under a refiner's brand name, the refiner must also demonstrate additional elements for a valid defense. This includes a showing that the violation was caused by a party in violation of a contractual understanding imposed by the refiner to prevent such action. The defenses available to regulated parties to rebut the presumption of liability are closely patterned after those adopted for other motor vehicle fuel regulatory programs under 40 CFR part 80, including the gasoline

volatility program. The presumption of liability is rebuttable, including the imposition of vicarious refiner liability for violations detected at branded facilities. This regulatory structure is fully consistent with the relevant judicial decisions in this area. See Amoco Oil Co. v. Environmental Protection Agency, 501 F.2d 270 (D.C. Cir. 1976) (``Amoco II''), and National Tank Truck Carriers, Inc., supra.

As discussed above, carriers not acting as refiners or oxygenate blenders will not be deemed presumptively liable for violations found downstream of the carrier facility, unless EPA shows that the carrier caused the violation. Accordingly, such carriers will not be required to present a defense to such downstream violations. However, where a violation is found at a carrier's facility, the carrier must meet the defense elements in order to avoid liability. Note that EPA intends to exercise its enforcement discretion to permit a carrier to rely on a properly conducted quality assurance program undertaken by the product owner to satisfy the quality assurance program defense element. One commenter observed that the proposed regulations fail to account for carriers making consecutive deliveries to reformulated gasoline and conventional gasoline markets. Such carriers may appear to have complying and non-complying product on board, according to the commenter.

The issue raised by this commenter applies not only to carriers, but potentially to any party who transports gasoline (e.g., a distributor or reseller). EPA does not consider the transportation of both reformulated and conventional gasoline in the same vehicle to be a violation provided that the destinations of the different products are proper and documented, and the products are properly segregated. Obviously, any party in such a situation should use care that the gasolines are not mixed and are properly delivered. Various commenters objected to the proposal that refiners would be presumptively liable for downstream violations, including those found at

downstream facilities that display the refiner's brand name. One commenter stated that the proposed regulations would impose an irrebuttable presumption of liability in violation of the Due Process clause of the Constitution and Amoco Oil Co. v. EPA, 501 F.2d 722 (D.C. Cir. 1974) (``Amoco I'') and Amoco II. The commenter claimed that the presumption was in practice irrebuttable due to product fungibility and the very high cost of testing required to avoid liability. The commenter also observed that refiners lack sufficient control over downstream parties to lawfully impose vicarious liability on the refiner, in part due to the Petroleum Marketing Practices Act. EPA disagrees.

The defense elements established in the final rule set forth reasonably attainable criteria to rebut a presumption of liability for violations detected downstream of a refinery. The final rule provides that refiners must demonstrate: (1) That the refiner did not cause the violation; (2) that product transfer documents account for all of the gasoline found in violation and indicate that the gasoline met relevant requirements; and (3) that the refinery has conducted a quality assurance sampling and testing program. Where the violation is found at a facility carrying the refiner's brand name, the refiner must show, in addition, that the violation was caused by: (1) An act in violation of law; (2) or an action in violation of a contractual obligation imposed by the refiner; or, (3) the action of a carrier or other distributor not subject to a contract with the refiner but engaged by the refiner for the transportation of gasoline, despite specification or inspection of procedures and equipment by the refiner reasonably calculated to prevent such action.

Addressing the above defense elements seriatim, EPA believes the information necessary to demonstrate that the refiner did not cause a violation determined downstream is reasonably within the control of a refiner through review of its production testing and shipping records. Further, refineries may reasonably provide in contracts with downstream parties for the refiner to

conduct quality assurance sampling and testing at the downstream facility. Such testing would be limited to determining that maximum/ minimum and other applicable standards are met.

Branded refiners, as discussed elsewhere in this preamble, are held to a more stringent standard for establishing a defense to downstream violations due to the enhanced control such refiners have over branded downstream parties. First, EPA anticipates that a brand refiner is able to exercise sufficient control over its downstream affiliates so as to prevent any violation other than one arising from a violation of law (other than a violation of this final rule). EPA also anticipates that a branded refiner will possess contractual leverage to be able to impose contractual obligations on downstream parties necessary to assure that violations will not occur under the terms of the contract. Finally, EPA anticipates that a brand refiner will possess contractual leverage to impose handling requirements on non-brand carriers or other distributors not subject to the refiner's brand but engaged by the refiner for the transportation of gasoline, and to allow specification or inspection of procedures and equipment by the refiner reasonably calculated to prevent such action. As with branded downstream parties, EPA believes that a conservative quality assurance program will deter violations downstream of the refiner by creating an atmosphere of oversight presence and quality assurance by the refiner. Further, EPA believes that quality assurance is in the refiner's self-interest in guaranteeing the quality of its product in the market. One commenter suggested that downstream quality assurance requirements might adversely affect the positions of independent distributors by allowing branded refiners to tighten up on contracts with the independents and force them out of the market. However, EPA believes that most distributors will conduct quality assurance programs regardless of any involvement by branded refiners, because of the distributor's potential for liability for violations that exists independent of the refiner's liability, and because most

distributors are concerned about product quality for reasons that are independent of the reformulated gasoline requirements. As a result, EPA does not believe that contractual provisions requiring quality assurance imposed by branded refiners constitute a significant additional burden on distributors. Moreover, the defense provisions related to branded refiners requires contracts only with branded resellers or retailers. As a result, refiners are not required to impose contractual quality assurance provisions on distributors who are not identified with the refiner's brand name.

EPA believes that the result of the final rule's liability and defense scheme is that refiners who maintain careful compliance with this rule and conduct an appropriate quality assurance program over their branded facilities, including periodic sampling and testing, will not be held inequitably liable for violations caused by downstream parties who display the refiner's brand name. Because many of these elements of defense call for the refiner to exercise precaution through normal contractual instruments, EPA anticipates that the cost of these measures will be minimal and consistent with the costs and expenses experienced in the gasoline volatility and lead phasedown programs. The rebuttable presumption of liability in the reformulated gasoline program is consistent with the holdings in Amoco I and Amoco II. The liability provision of the unleaded gasoline regulations that was challenged in Amoco I and held by the Court to be improper imposed strict vicarious liability on parties upstream of a retail facility at which a violation had been determined. The Amoco I court held that any presumption of liability must be rebuttable. Amoco II held that a presumption of refiner liability must be rebuttable for violations resulting from the sale of leaded gasoline as unleaded by retail facilities owned and leased by the refiner. As a result of the Amoco I and Amoco II decisions, the unleaded gasoline regulations were revised to allow refiners to rebut a presumption of liability even where the refiner owned or

leased a retail outlet found in violation. All presumptions of liability contained in the reformulated gasoline regulations are rebuttable. As in other 40 CFR part 80 fuels programs (unleaded gasoline, volatility, and diesel sulfur), the final reformulated gasoline rule provides for more stringent refiner defense elements in the case of a violation at a facility displaying that refiner's brand name, as opposed to a case where the facility in violation does not display the refiner's brand name. Nevertheless, the final regulations provide that the refiner in such a brand-namefacility case may rebut a presumption of vicarious liability by showing that the violation was caused by a party other than the refiner. Accordingly, the final rule does not create strict vicarious liability by any party, and is consistent with the teachings of Amoco I and Amoco II.

One commenter stated that a retailer could prove the first retailer defense element (that the retailer did not cause the violation) only by proving the second retailer defense element (that product transfer documents that meet relevant requirements account for all gasoline purchased and sold by the retailer), and therefore the element should be deleted. EPA agrees that one of the most common ways retailers show non-causation is by identifying the source of all gasoline present at the retail outlet, and showing that this product was represented by the distributor(s) or reseller(s) to meet all relevant requirements. In enforcing other motor vehicle fuels programs where retailers have often used this type of evidence to proffer a defense, however, EPA's experience has been that retailers are rarely found to be ultimately liable unless the retailer made decisions to commingle gasolines in the retail tank that should have been segregated. It is possible that a retailer's proferring of product transfer documents may be inadequate to establish a complete defense to an allegation of a violation. For instance, the retailer may have knowledge, independent of the product transfer documents, that should lead the retailer to understand that the

gasoline's qualities are not as represented on the documents. In such a circumstance, the retailer would be required to show by means other than the documents that it did not cause the violation. Accordingly, the elements of defense for a retailer may overlap, and as a result are not redundant. The adequacy of a defense will be determined on a case-by-case basis.

One commenter objected that a party would have to test gasoline received by the party following each receipt, and test the gasoline delivered to other parties following each delivery, in order to absolutely prove the party did not cause a violation for which the party could be presumptively liable. EPA agrees that the most conclusive proof for non-causation for any possible allegation of liability would be test results of the type described by the commenter. In fact, this is the type of testing that commonly is carried out by the parties where large volumes of gasoline are involved. Refiners and importers conduct such testing of the gasoline they produce or import, as do other parties such as pipelines and terminals when receiving or shipping large-sized batches of gasoline. In situations where the volume of gasoline received or shipped/delivered is small, EPA does not anticipate that every-batch testing is needed to show non-causation. EPA believes that parties who deal in small-sized gasoline batches are able to effectively monitor the quality of gasoline received and shipped/delivered and establish the cause of violations that occur through careful attention to program requirements, discretion in the selection of business partners, and good quality control practices including a program of periodic sampling and testing. This belief by EPA is based on its experience in enforcing other motor vehicle fuels programs.

One commenter stated that the requirement of a quality assurance program in addition to all other testing and audit requirements, is redundant.

EPA believes that quality assurance sampling and testing is essential so that there is an

incentive for parties to adequately monitor the quality of gasoline received and shipped/delivered. The principal purpose of quality assurance sampling and testing, in EPA's view, is to alert a party to gasoline quality problems so that the party may correct the problem and the conditions that caused the problem before EPA documents any violations. Other enforcement mechanisms that are included in the reformulated gasoline program are important for their own reasons, but EPA does not believe they eliminate the need for sampling and testing.

In addition, the existence of an adequate quality assurance program is a separate element of the defense to a presumption of liability because EPA does not feel confident that a party did not cause a violation absent such evidence. For example, even if one party can show that another party was the apparent or primary cause of a downstream violation, that does not on its own show that the first party did not also cause the violation. The fungible nature of the gasoline distribution system could well lead to situations where more than one and perhaps several parties contributed to a violation detected downstream. Absent a sufficient quality assurance program, production of proper transfer records, and any other evidence needed to show that the first party did not cause the violation, EPA does not believe that the first party has properly rebutted the presumption of liability. A quality assurance program, which involves sampling and testing the gasoline while it is in the hands of a party, is reasonably considered a necessary, minimum element of properly showing that a party did not cause a violation and thereby rebutting a presumption of liability. Refiners, importers and oxygenate blenders are required to conduct sampling and testing under the regulations, as well as have independent audits performed. For those parties, the required sampling and testing may well satisfy the quality assurance element of a defense to presumptive liability and is therefore not redundant. For those parties it only calls for additional sampling and testing where the required sampling and testing would not be

adequate to satisfy that element of the defense. For all other parties, the quality assurance element of a defense is not redundant as there is no required sampling and testing for other parties.

Nevertheless, sampling and testing by parties other than refiners, importers, and oxygenate blenders is not required by the final rule, but rather is a voluntary defense element only. If a party believes that no violations will occur as a result of other program requirements, the party could choose to avoid a quality assurance sampling and testing program. Such a decision would, however, increase the risk of violation attributable to the party. Without a quality assurance sampling and testing program a party would have scant basis for knowing if the gasoline it receives and ships or delivers meets standards. In addition, in the event the party's confidence is misplaced and EPA documents a violation for which the party is presumed liable, the party would be unable to establish a defense against that liability.

A commenter requested that EPA define the frequency of sampling and testing that EPA would consider sufficient to satisfy the quality assurance defense element. Another commenter recommended that EPA should base enforcement actions exclusively on EPA testing using regulatory test methods and not on oversight sampling and testing by regulated parties.

EPA is reluctant to specify the details of a ``sufficient'' quality assurance sampling and testing program, because the type of program that is sufficient in any situation depends on the particular facts of that situation. In addition, EPA believes regulated parties are closest to their own operations and are therefore in the best position to judge the program that is adequate. Typically, such a program should include sampling and testing of a representative sampling of the gasoline the party receives and ships or delivers; identification of any sample that is in violation of relevant standards, and for such a sample, correction of the violation and the conditions that caused the violation; and an increased rate of sampling and testing when conditions indicate an

increased likelihood of violations (e.g., violating samples found).

In the case where a violation is detected through a party's quality assurance program, and the party corrects both the violation and the conditions that caused the violation without any involvement by EPA, EPA generally forgoes any enforcement on the basis of the party's test results. If the party does not follow-up on violations in this manner, however, EPA may initiate an enforcement action on the basis of the party's test results.

Carrier-commenters objected to the quality assurance sampling and testing defense element as applied to carriers. Commenters stated that a carrier is in a uniquely weak position in the gasoline distribution system to verify the characteristics of product received in order to rebut an assertion that the carrier caused a violation. EPA recognizes that the term ``carrier'' covers an array of carriage and distribution operations. Pipelines, barge operations, ship operations, tank trucks, and storage facilities may all meet the definition of a carrier. Each type of carrier has unique capacities for conducting quality assurance sampling and testing programs. For instance, pipelines, barge and ship carriers, and storage facilities typically deal with large volumes of gasoline. EPA believes that these high volume operations already conduct sampling and testing programs during the normal course of business that normally will satisfy the quality assurance defense element. In fact, commenters observed that barge carriers typically sample and test loads both before and after shipment to ensure the integrity of their product. The unique circumstances of tank truck carriers have been considered in the final rule. Truck carriers, like other carriers, will be asked to present evidence of a quality assurance program only where EPA documents a violation at the carrier's facility.<SUP>64 In addition, truck carriers may rely on a properly conducted quality assurance program carried out by another party over the carrier's operation (most likely the product owner). Moreover, quality assurance sampling involving

gasoline delivery trucks may be accomplished using samples collected at retail stations following truck deliveries (discussed more fully above), providing carriers with additional flexibility in meeting this defense element. It is also relevant that under the existing gasoline volatility and diesel sulfur programs carriers, including truck carriers, are required to conduct quality assurance sampling and testing in order to establish a defense for violations. As a result, the carrier quality assurance defense element in the reformulated gasoline program is merely an extension of the carriers' current quality assurance responsibilities.

\6\4Carriers are liable under two circumstances: when a violation is found at the carrier's facility, and where EPA shows the carrier caused a violation found elsewhere. The quality assurance defense element would have application only in the first circumstance, however, because in a case where EPA establishes the carrier caused a violation the carrier would not be able to establish a defense even if the carrier conduced a quality assurance program.

EPA intends to exercise its enforcement discretion to provide carriers with flexibility to satisfy the quality assurance sampling and testing defense element if another party, most likely the product owner, carries out an adequate sampling and testing program over the gasoline stored or transported by the carrier. The product owner is required to conduct a quality assurance program in order to establish a defense against its own liability, so that an arrangement between the carrier and the product owner in this regard would be little additional burden for the product owner.

Carriers also may seek contractual indemnification from the product owner against liability for violations detected at the carrier's facility. EPA believes that the traditional allocation of risk through contract is an appropriate method for carriers to safeguard their interests within the fuel distribution system. Contractual indemnification combined with a contractual commitment by the product owner to carry out an effective quality assurance sampling and testing program

would provide a carrier with reasonable protection against financial exposure for liability for violations for which the carrier is not responsible.

EPA has analyzed the costs associated with voluntary carrier sampling and testing. First year per-party costs<SUP>65 are calculated to be approximately $2,672 for pipelines, $1,042 for truckers acting as oxygenate blenders, and $517 for other truckers. Costs during 1996 and 1997 are estimated at $2,437, $673 and $480, respectively. Moreover, EPA assumes that many of these costs will be shared among carriers and the owners of the product. EPA has concluded that these costs are reasonable given the importance of the quality assurance program to the success of the reformulated gasoline program.

\6\5First year costs include: analyzing RFG regulatory provisions; planning activities; training; field testing for conventional gasoline marker; sampling and testing for reform properties (though this is partially a customary and usual business practice by virtue of required testing for RVP and oxygenates for federal and state programs). Pipelines already routinely test for other properties as well.

4. Alternative Enforcement Options

Several commenters offered alternatives to EPA's proposed enforcement scheme. The alternatives proposed include: EPA should rely on cease and desist orders; EPA should only presume liability where a violation is found and allow private contract law to insure the violator against upstream causation; EPA should require willful and knowing negligence for vicarious refiner liability; and EPA should impose sampling and testing requirements on all tank truck carriers, even if sampling and testing is already performed by an upstream party for the carrier, to avoid economic advantage over for-hire carriers. EPA has considered these alternative enforcement schemes and has determined to implement the scheme as proposed or modified and

discussed above. This enforcement scheme is unified, consistent with EPA's enforcement in the gasoline volatility, diesel sulfur and lead phasedown programs, and focusses enforcement attention at the points in the distribution system where the pollution forming potential of gasolines may be affected by parties in the manufacturing and/or distribution process. A stringent compliance oversight and enforcement program, as described in detail in the final rule and this preamble, is necessitated by the significant financial incentives that exist for parties to not comply. EPA's experience in the lead phasedown and gasoline volatility programs has been that financial incentives will result in cheating and that a vigorous enforcement presence will result in diminished incidence of non-compliance. Accordingly, EPA believes that an enforcement program relying on cease and desist orders alone for encouraging compliance by parties would not be effective in deterring violations and would fail to remove economic incentives for non-compliance. Further, EPA believes that reliance on private contract law to insure the violator against upstream causation would be ineffective in providing for maximum compliance due to the uncertainty of the resolution of contract disputes and the amenability of such disputes to resolution for reasons other than the interests of compliance with the Clean Air Act. Also, EPA has determined not to require willful and knowing negligence for vicarious refiner liability due to the difficulty of establishing knowledge and due to EPA's belief that such a requirement would ease the obligation of refiners to strictly monitor the quality of their product as it is distributed. Finally, EPA has created a system of sampling and testing that creates the most thorough oversight scheme necessary while avoiding unnecessary redundancies. The regulations require each party to conduct sampling and testing at appropriate points in the distribution system. However, as discussed above, EPA will exercise its enforcement discretion so as to allow parties the flexibility to jointly assume responsibility for the accomplishment of

required testing. This exercise of enforcement discretion is intended to avoid redundancies. EPA cannot justify the imposition of unnecessary sampling and testing on the regulated community to alter economic advantages associated with this program.

J. Baselines for Imported Gasoline

EPA received comments on the appropriate baseline to apply for gasolines produced at foreign refineries and imported into the United States.

1. Introduction

EPA's regulations prescribe the procedures for establishing 1990 baselines for refiners and importers. Compliance with the anti-dumping standards is measured by comparison to these baselines. In addition, during the period 1995 through 1997, the reformulated gasoline emissions standards are based in part on maximum parameter levels measured against these baselines. Section 211(k)(8) provides for refiners, blenders or importers to determine individual 1990 baselines predicated on adequate and reliable data. In the absence of such adequate and reliable data, Congress prescribed a summertime baseline and mandated that the Administrator would establish a wintertime baseline."<SUP>66

\6\6The statutory baseline is intended to approximate the national average gasoline parameter values for gasoline used in the United States in 1990.

The final rule provides mechanisms for establishing accurate and verifiable refinery baselines, while avoiding options that might provide incentives for the regulated community to ``game" the baseline-setting process. These two principles that underlie the baseline-setting mechanisms (accurate, verifiable, and no opportunity for ``gaming") serve the environmental purpose of ensuring that the quality of gasoline used in the United States beginning in 1995 is properly

compared with the quality of the gasoline used in the United States in 1990.

Subsequent to January 1, 1995, all conventional gasoline marketed in the U.S. will be subject to emission standards established with reference to an individual baseline. Between January 1, 1995 and January 1, 1998, all reformulated gasoline marketed in the U.S. also will be subject to standards established with reference to an individual baseline. The consequence of a baseline-setting mechanism that would result in baselines that, overall, are less stringent than 1990 average gasoline quality, would be that the environmental benefits intended for reformulated and conventional gasoline beginning in 1995 would not be achieved.

If refiners had the option of presenting the data necessary to establish an individual refinery baseline, or being assigned the antidumping statutory baseline, each refiner's choice would be clear. Each refiner would calculate whether the individual baseline or the statutory baseline is more stringent for that refiner, and would simply select the least stringent option. In consequence, if parties were given more than one regulatory option to establish a baseline, the cumulative effect of each individual refiner's exercise of the baseline-setting option would be that the environmental benefits intended for reformulated and conventional gasoline would not be achieved. Accordingly, EPA has avoided providing options within the baseline-setting scheme.

2. Required Individual Baselines--Domestic Refiners EPA's final rule provides for a scheme to establish refinery baselines for domestic refiners that avoids giving parties options, and within this no-option constraint, that uses the best available data in setting baselines. As a general approach, parties are required to establish individual baselines using actual 1990 data (Method 1). However, EPA does not anticipate that many domestic refiners will have all the data necessary to establish an individual baseline based entirely on actual 1990 data. Therefore, where the actual 1990 data is not available, the baseline provisions provide for the modelling of

1990 parameters (Methods 2 and 3). These models are based on the absence of ``first choice'' 1990 data, and require that the affected party provide the ``next best'' data available from production subsequent to 1990 to establish a modelled accurate baseline. Domestic refiners are not permitted an option to revert to the use of Methods 2 and 3. Rather, refiners are required to use Method 1 if actual 1990 data is available. If the Method 1 data are not available, refiners are required to use Method 2, and if Method 2 data are not available, refiners are required to use Method 3. Domestic refiners are not permitted an option to use the statutory baseline. Domestic refiners are required to use independent commercial auditors to certify the accuracy and the availability (or non-availability) of data for any of the baseline setting methods, and to assure the proper application of those methods. This scheme does not give domestic refiners any choice in the manner in which baselines are set, thus avoiding the potential for ``gaming'' by individual refiners. Moreover, EPA is easily able to conduct enforcement audits of the baseline submissions of domestic refiners. In consequence, EPA believes that this scheme will result in the establishment of an accurate representation of the actual U.S. 1990 baseline gasoline fuel properties from domestic refiners. This baseline setting scheme is discussed in detail in Section VIII of this preamble.

3. Baselines--Importers of Foreign Gasoline The final rule provides that importers of gasoline must establish an individual baseline using actual 1990 gasoline characteristics (Method 1). Where actual 1990 data are not available, however, an approach that is different than the approach used for domestic refiners is necessary. In the absence of actual 1990 data, an importer is required to use the anti-dumping statutory baseline. Importers are not permitted to use Methods 2 or 3 because often it is simply not technically feasible to model an importer's 1990 baseline from gasoline imported during the years subsequent to 1990, for the following reasons.

The foreign sources and production processes underlying an importer's post-1990 gasoline will have changed for most importers from those sources and processes underlying the importer's 1990 product. The model Methods are not designed to factor in such changes. In addition, it is exceedingly difficult to establish the refinery-of-origin of discrete products, due in part to the fact that foreign gasoline from different foreign refineries often is subject to fungible mixing prior to arrival at the U.S.<SUP>67 Accordingly, both the importers and EPA would be unable to verify the accuracy or reliability of an importer's modelled baseline.

\6\7In discussions with representatives of the U.S. Customs Service, EPA has been informed that the Customs Service has found it is virtually impossible to trace a batch of gasoline from point of entry in the U.S. back to the country of origin. Country of origin for gasoline is relevant for Customs purposes because import tariffs on gasoline differ depending on whether the country of origin has most-favored-nation trade status. To the extent the Customs Service is unable to verify even the country of origin of gasoline, the refinery of origin would be even more difficult to verify.

As a result of the technical infeasibility of the application of Methods 2 and 3 to importers (change of gasoline source-refiners between 1990 and later years, and inability to track refinery-of-origin generally), and lack of adequate enforcement, all importers that are unable to produce actual 1990 production values are required to revert to the anti-dumping statutory baseline. In addition, EPA anticipates that most importers lack the actual 1990 testing data necessary for establishing a baseline using Method 1. As a result, EPA expects most importers will be assigned the anti-dumping statutory baseline. EPA considered giving foreign refiners, as opposed to importers, the option of either setting individual baselines using Methods 1, 2, and 3, or of being assigned the anti-dumping statutory baseline. This approach is flawed, however,

capacity, and the expansion of gasoline volume that will result from the oxygenate use mandated for domestic gasoline. EPA concludes that the baseline provisions adopted today pose no significant problem for U.S. energy security. 6. Date the Complex Model Becomes Mandatory One commenter notes that the individual baseline issue is only pertinent to the years during which gasoline may be produced under the simple model for determining gasoline characteristics. Beginning in 1998, when the complex model becomes mandatory, the commenter correctly points out, all reformulated gasoline will be required to achieve specified reductions from the statutory baseline. Accordingly, the commenter observes, individual baselines for foreign refineries are only critical during the years the simple model is relevant. However, the refinery/importer individual baseline will continue to be relevant beyond application of the simple model due to its application to conventional gasoline through the anti-dumping requirements. As a result, if individual foreign refinery baselines were allowed, the difficulties described above would persist in perpetuity. Accordingly, the feasibility of the baseline setting scheme established today will have longstanding effect on the viability of the reformulated gasoline and anti-dumping program.

K. Date Reformulated Gasoline Requirements Begin

Section 211(k)(5) prohibits the sale or dispensing of conventional gasoline in any covered area beginning on January 1, 1995. In order to implement this timing mandate, EPA proposed that the reformulated gasoline requirements would apply at all locations beginning on January 1, 1995. EPA now believes that it is necessary for the reformulated gasoline requirements to apply at facilities upstream of the retail outlet level beginning on December 1, 1994, in order for facilities at the retail level to have reformulated gasoline beginning on January 1, 1995.

Under the gasoline volatility program (40 CFR 80.27-80.28), the volatility standards apply at

be designated as reformulated or conventional. If it is designated as reformulated it will have to comply with reformulated gasoline standards. If it does not comply with reformulated gasoline standards, it will have to be designated as conventional, segregated from reformulated gasoline, and clearly labeled as conventional gasoline and not intended for use in any covered area.

In the case of reporting requirements, EPA intends that no quarterly or averaging reports will be submitted in 1994, and that the first quarterly report in 1995, that must be submitted by May 31, 1995, will be the first reformulated gasoline report. As a result, all batchspecific information for gasoline produced during 1994 should be included in the first quarter 1995 report. A provision is included in the final rule to this effect, at Sec. 80.75(a)(3). Similarly, EPA does not intend that a separate attest engagement must be performed at the conclusion of 1994, but that the 1995 attest engagement must include all gasoline produced or imported in 1994. EPA also has included a provision in the final rule, at Sec. 80.67(i), to specify the manner in which standards are met for reformulated gasoline produced to average (as opposed to per-gallon) standards during 1994. Proposed provisions dealing with averaging did not address this category of reformulated gasoline, because the averaging proposals only addressed gasoline produced beginning in January 1995.

The provision in the final rule specifies that reformulated gasoline that is produced or imported during 1994 but that is intended to be used in 1995 may meet the reformulated gasoline standards on average, provided that the refiner or importer satisfies the gasoline quality survey prerequisite during 1995. The provision further specifies that any such average compliance reformulated gasoline must be grouped with gasoline produced or imported during 1995 for purposes of compliance calculations, as well as reporting. As a result of the requirement that for each parameter only the per-gallon or only the average standard may be used during each

result of EPA's concerns over a variety of technical and enforcement issues related to the importation of gasoline. 4. Comments

One foreign refiner commenter to the 1992 SNPRM objected to this baseline-setting scheme on the grounds that some domestic refiners may receive baselines dirtier than the statutory baseline due to their ability to use actual or inferred 1990 production values, while most importers, and therefore foreign refiners, would be subject to the statutory baseline and would not enjoy an opportunity to use an individual baseline dirtier than the statutory baseline.<SUP>69 This would occur because it is unlikely that domestic importers that do not own foreign refineries maintained records of 1990 imported gasoline characteristics adequate to establish an individual baseline. The commenter recommended that foreign refiners be permitted to establish individual baselines using Methods 1, 2 and/or 3 to establish their baselines.

\6\9 This issue is primarily of concern to foreign refiners whose actual 1990 production characteristics exceed the statutory baseline.

EPA gave serious consideration to this comment, and in the 1993 SNPRM described the concerns raised by the comment and the alternatives suggested by the commenter, and invited comment on the issue. In response to the 1993 SNPRM several commenters objected to providing foreign refineries with individual baselines on the grounds that such baselines would promote gaming of the system, thereby reducing the air quality benefits sought under the Act, and would provide foreign refiners with a competitive advantage. Because foreign refiners do not have to comply with the reformulated gasoline program's anti-dumping provisions for conventional gasoline sold outside of the U.S., the commenters alleged that foreign refiners can produce reformulated gasoline at lower overall cost. Other comments were received that supported the granting of foreign refinery baselines, on the grounds that such baselines would

enhance competition among gasoline suppliers within domestic US markets, to the advantage of the public generally.

EPA believes the comments related to any competitive consequences of baselines are irrelevant. As a result, EPA has rejected all comments relating to competitive concerns, and EPA's decisions regarding the manner in which baselines are set are not influenced by such considerations.

After consideration of all relevant comments on this issue, EPA has determined to implement the baseline provisions described above. The detriment to the U.S. environment associated with the potential establishment of inaccurate refinery baselines by current and possibly future foreign sources of imported gasoline, along with the difficulties associated with monitoring compliance with the antidumping and reformulated gasoline programs, compel the Agency to require that domestic importers establish individual baselines using Method 1 or that they comply with the anti-dumping statutory baseline, and to not establish individual baselines for foreign refiners. This scheme is consistent with the scheme of requiring refiners, domestic or foreign, to measure compliance against an accurate and verifiable baseline that is based on adequate and reliable data. The approach is also consistent with EPA's intent to avoid the creation of options within the baseline setting scheme that would allow gaming by the regulated community. Further, the scheme is consistent with EPA's compliance monitoring and enforcement capacity. 5. U.S. Energy Security

One commenter suggested that requiring foreign refiners to produce to the statutory baseline would result in a shortfall of imported gasolines to the U.S. EPA's analysis indicates that gasoline supplies will be unaffected by implementation of the proposed baseline requirements. This conclusion is based on the likelihood that the baseline proposal would at most result in a small change in gasoline imports in limited markets, combined with the excess domestic refining

under diesel sulfur, and retailers and wholesale purchaser consumers will be unable to meet the reformulated gasoline standards on January 1, 1995. EPA further believes that a one month lead-time is appropriate for the reformulated gasoline program, because a lead-time of this length has been successful under the gasoline volatility program. As a result, the final regulations include the requirement that certain reformulated gasoline requirements must be met by facilities upstream of the retail level beginning on December 1, 1994.

This regulatory provision constitutes a clarification of the proposal that would require all parties, including retailers and wholesale purchaser-consumers, to meet the reformulated gasoline standards beginning on January 1, 1995. The proposed regulatory timing could only be achieved if upstream facilities began dispensing reformulated gasoline before January 1, 1995, and that in consequence a lead-time of approximately one month was implicit in the proposal. All regulatory requirements for reformulated gasoline apply to gasoline that is produced or imported after December 31, 1994, or any time during 1994 if it is intended for use after January 1, 1995. It is presumed that all gasoline produced or imported after December 1, 1994 is intended for use after January 1, 1995. These requirements include, inter alia, independent sampling and testing, provisions dealing with downstream oxygenate blending, record keeping, reporting, and attest engagements. This reach of the reformulated gasoline requirements is consistent with the regulatory provision contained in the proposal (also included in the final rule at Sec. 80.65(a)), that reformulated gasoline requirements would apply to all gasoline sold, dispensed, stored, transported, produced, or imported on or after January 1, 1995. EPA thus proposed that gasoline sold or dispensed on January 1, 1995, and that necessarily will have been produced or imported during 1994, would be subject to all reformulated gasoline requirements. Thus, for example, all gasoline produced or imported on or after December 1, 1994 will have to

baseline of a gasoline batch establishes the standard against which compliance for that batch will be measured.

In the case of gasoline produced domestically, baselines are set at the refinery; any gasoline produced at a refinery and intended for the domestic market is subject to that refinery's baseline. As a result, tracking of gasoline to its refinery-of-origin is not necessary in the case of domestically-produced gasoline. If foreign refinery-specific baselines were applied to imported gasolines, however, it would be necessary to identify the refinery-oforigin for all imported gasoline. This type of identification often would be very difficult or impossible. At the time gasoline arrives by ship at a U.S. port of entry, the gasoline has no inherent quality that would identify either the refinery at which the gasoline was produced or the baseline that properly applies to the gasoline. The only mechanism available for correlating any imported gasoline with the refinery-of-origin is the paperwork that accompanies the gasoline. EPA's ability to verify the accuracy of such paperwork is extremely limited. Gasoline produced by a foreign refinery may trade hands or be intermixed with other product several times before entering the United States. EPA lacks the ability to accurately and readily determine the refinery-of-origin based solely on the documentation of fuel transactions and shipments through myriad distribution parties and routes outside the United States.

If foreign refinery baselines were allowed, EPA would have no recourse other than to rely on the import paperwork that is supplied by the importer for purposes of identifying the baseline applicable for imported gasoline. EPA would have little or no means of detecting, documenting, or proving any cheating in the form of misstating the refinery-of-origin and thereby the applicable baseline for imported gasoline. EPA would therefore lack the ability to monitor the compliance of foreign refineries with individual baselines. Accordingly, EPA has determined to

facilities upstream of the retail outlet level beginning on May 1 of each year, and at all facilities including retail outlets and wholesale purchaser-consumers beginning on June 1 of each year.<SUP>70 This regulatory approach provides a one month leadtime during which the gasoline being dispensed at terminals meets the summertime volatility standard, in order to ``turn over'' the gasoline in retail level storage tanks to meet the summertime volatility standard before June 1. As a result of this timing requirement for gasoline volatility, almost all retail outlets achieve the summertime volatility standard by June 1 through the normal cycle of gasoline deliveries.

\7\0 The end of the volatility control season each year is September 15 at all facilities.

In contrast to this favorable experience under the gasoline volatility program, during implementation of the diesel sulfur program (40 CFR 80.29-80.30) retailers and wholesale purchaser-consumers had significant difficulties complying with the new requirements at the beginning of that program on October 1, 1993. The diesel sulfur regulations did not require facilities upstream of the retail level to have low sulfur diesel fuel in place well before October 1, 1993, and many terminals did not meet the low sulfur standard until very shortly before October 1. As a result, a large number of retail outlets and wholesale purchaser-consumers were not able to obtain low sulfur diesel fuel in advance of the October 1, 1993 date when all facilities were required to meet the low sulfur diesel standard. In consequence of this situation in some areas of the country prices of low sulfur diesel fuel rose 30 cents to 40 cents over the cost of high sulfur diesel fuel. As a result, EPA was compelled to grant retailers and wholesale purchaser consumers additional time after October 1 to come into compliance with the diesel sulfur standard.

EPA believes that unless a lead-time is mandated under the reformulated gasoline program, the January 1, 1995 commencement will result in the same supply difficulties that occurred

causing the violation. EPA believes that the presumption of liability proposed in the final rule effectively imposes a duty of care on carriers to avoid these violations. Further, as discussed in the economic analysis accompanying this final rule, the costs associated with carrier compliance are reasonable and have been designed to provide carriers with the minimum oversight costs necessary to accomplish the goals of this program. Certain carriers argue that Congress did not authorize the regulation of carriers in this program as the prohibition found in section 211(k)(5) of the Act only applies to refiners, importers, distributors and marketers, but not carriers. Therefore, it is argued, EPA may not regulate carriers.

EPA disagrees with this argument. First, it misinterprets the prohibitions adopted by Congress in section 211(k)(5). The statutory prohibitions found in that paragraph are self-effectuating once EPA promulgates regulations establishing the requirements for certification of reformulated gasoline. Section 211(k)(5) does not limit EPA's authority to establish various additional regulatory prohibitions, as necessary, in the exercise of EPA's rulemaking discretion under section 211(k)(1). It also does not limit EPA's authority under section 211(k)(1) to regulate, as appropriate, the activities of various persons in the gasoline distribution system, including carriers. In any case, EPA believes that carriers are reasonably included in the term ``marketers" as used in section 211(k)(5). That term is vague and ambiguous, and EPA reasonably interprets it to include all persons regulated by EPA in the reformulated gasoline program including carriers.

The Act does not define the term marketer for purposes of section 211(k), and while that term is used in various other provisions of the Act, it is only defined for purposes of one unrelated provision, section 324 (involving responsibility for gasoline vapor recovery systems at small volume retail outlets). The term generally appears to indicate a broad category of persons

because of the gaming opportunity it would give foreign refiners. As discussed above, such a gaming opportunity would result in an overall quality of gasoline in 1995 and thereafter that would fail to achieve the environmental goals intended for reformulated and conventional gasoline. A foreign refiner with an actual baseline dirtier than the statutory baseline would prefer to continue to produce to that baseline. However, a foreign refiner with an actual baseline cleaner than the statutory baseline would prefer to produce to the less stringent statutory baseline. Accordingly, the incentives to game the program would result in the average quality of gasoline imported to the U.S. being skewed to produce dirtier gasoline than the statutory baseline. Foreign refiners would collectively exceed the U.S. average gasoline parameters, resulting in dirtier U.S. air. EPA also considered whether it would be feasible to apply the same baseline-setting approach used for domestic refiners to foreign refiners directly, i.e., that any foreign refiner would be required to establish an individual baseline using Methods 1, 2, or 3. Under this approach, any foreign refiner, like any domestic refiner, who is unable to establish the quality of its 1990 US-market gasoline would be barred from supplying gasoline for use within the United States beginning in 1995. This approach would be consistent with the guiding themes for baseline-setting: That parties not have options in setting baseline levels, and that within this constraint that the baselines are set using the best available data. Application of this baseline-setting approach to foreign refiners is problematic, however. Foreign refiner use of the general scheme using Methods 1, 2 and 3 would require that the foreign refiner must have actual test data for the portion of its production destined for U.S. markets, or in the alternative, foreign refiners would have to model the 1990 quality of their U.S. product based on post-1990 gasoline quality data and refinery configuration information. EPA believes that most foreign refiners lack the information necessary to establish their 1990 U.S. market gasoline under either

Method 1, 2 or 3. Most (if not all) foreign refiners, like domestic refiners, did not collect adequate data in 1990 to use Method 1. In addition, Methods 2 and 3 generally are inappropriate for use by foreign refiners for technical reasons, in that Methods 2 and 3 model the quality of overall refinery gasoline production, not the quality of a portion of refinery production. The overall quality of gasoline from a refinery may bear scant resemblance to the quality of the portion going to the U.S. market. Accordingly, Methods 2 and 3 normally will not work for refineries that ship only a portion of their production to the U.S. market. EPA believes that it is inappropriate to require the use of Methods 2 and 3 baselines when these Methods will not work properly for some or most foreign refiners, and when the consequence of such a failure would be to bar the foreign refiner from importing gasoline into the U.S. Therefore, in order to create a non-optional baseline setting approach for foreign refiners, EPA determined to regulate their gasolines through domestic importers as described above. In addition to the technical difficulties inherent in applying baseline-setting Methods 2 and 3 to importers and foreign refiners, and the potential for gaming that would result from optional use of these Methods, EPA is concerned that it would be unable to carry out a consistently effective compliance monitoring and enforcement program of foreign refinery baselines set using these Methods, with the result that the accuracy of foreign refinery baselines would not be ensured. There is a fundamental distinction between EPA's ability to monitor and enforce regulatory requirements that would apply against domestic as opposed to foreign refiners. Simply put, domestic refiners are subject to the full panoply of EPA's regulatory jurisdiction and compliance monitoring, while not all foreign refiners desiring to produce reformulated and/or conventional gasoline may be subject to EPA's regulatory jurisdiction with equivalent certainty. Compliance monitoring and enforcement are integral to the establishment of accurate and verifiable baselines, as well as subsequent

compliance with standards based on these baselines. The reformulated gasoline program compliance monitoring and enforcement scheme consists of several elements designed in the aggregate to ensure that the environmental goals of the Clean Air Act are met, including, inter alia: baseline-setting audits; mandatory reporting and record keeping; independent laboratory sampling and testing; tracking of product from point of production to point of distribution; unannounced EPA compliance inspections; annual attest engagements by certified professionals; and an enforcement scheme comprised of civil penalties, injunctive relief, and criminal sanctions. Domestic refiners and importers are subject to EPA jurisdiction in each of these activities; all foreign refiners may not be equally amenable to EPA jurisdiction. Domestic refiners, required to establish individual baselines using actual or inferred 1990 production values (Methods 1, 2 and/or 3), are required to have baseline parameter determination methodology and resulting values verified by an EPA-certified auditor. However, foreign refiners, like all foreign corporations and citizens, enjoy protected status under the laws of their national jurisdiction and are not equally amenable to EPA audits of refiner baselines.<SUP>68 EPA has experienced difficulty in other mobile source regulatory programs, including the foreign automotive certificate of conformity program, in gaining entry to foreign countries to conduct compliance inspections and therefore believes similar problems could arise under the reformulated gasoline program.

\6\8A commenter suggested that diplomatic instruments may be available to mitigate EPA's concerns with access to foreign refineries for baseline certification and compliance monitoring and oversight. However, EPA has not been presented with a model instrument that guarantees such access over time. In contrast, EPA does have guaranteed access to domestic refineries and importers through authority provided in the Act and its implementing regulations.

abide by its proposal to focus regulation of foreign gasoline on domestic importers of product over which EPA does enjoy enforcement jurisdiction. Domestic refiners and importers are subject to unannounced compliance inspections by EPA. Foreign refiners, by virtue of their sovereign protected status, are not equally subject to unannounced inspections. Again, the environmental and public health benefits arising from an austere compliance monitoring program are not as readily available with respect to foreign refiners. Domestic refiners and importers are subject to a panoply of enforcement mechanisms to ensure compliance with the Clean Air Act. EPA may seek civil or criminal penalties or injunctive relief within the U.S. judicial system and be assured that judgments will be enforced. Judicial remedies are essential to EPA's enforcement of a regulatory program in which significant economic incentives exist to produce noncomplying product.

However, U.S. judicial jurisdiction may not fully and easily extend to foreign refiners. EPA's ability to exercise enforcement measures against foreign refiners is uncertain, at best. For example, in an EPA motor vehicle recall administrative action against a foreign automobile manufacturer, the manufacturer argued EPA lacked jurisdiction and refused to accept service or comply with administrative discovery requirements in a manner that would not be possible by a domestic automobile manufacturer. Accordingly, EPA has determined to focus its regulatory authority on domestic importers of foreign gasoline which are amenable to U.S. legal process.

In summary, EPA has considered all proposed baseline-setting alternatives for foreign gasolines to the final rule and has determined that the rule issued today is necessary to protect the quality of U.S. air and public health. Further, the baseline setting scheme promulgated today is the least restrictive scheme available to ensure that the goals of the Clean Air Act are achieved. EPA is aware that the baseline approach adopted today for foreign refiners is the

Further, EPA is unaware of any current diplomatic instruments which would provide EPA with assurances of oversight of the integrity of compliance audits conducted by non-U.S. auditors.

EPA has considered whether one or more foreign refiners may be able to devise a diplomatic instrument sufficient to guarantee EPA's certified auditors and inspectors access to conduct baseline verification audits and compliance oversight and enforcement inspections. However, the foreign supply of gasoline (conventional and ultimately reformulated gasolines) to the U.S. currently depends on imports from numerous foreign sources. EPA believes it unlikely that all current (or foreseeable future) foreign suppliers of gasoline will be able to provide adequate diplomatic guarantees for EPA access. The environmental benefits of the reformulated gasoline program depend on EPA's receipt of accurate and verifiable reports from regulated parties, and EPA's ability to review the data possessed by the regulated community that underlies the reports, or in the alternative, EPA's ability to seek civil, criminal and professional sanctions against domestic corporate officers and professionals engaged in maintaining records or submitting reports and audits to the U.S. government. However, in the case of foreign refineries, EPA does not have the authority for oversight of the record keeping and reporting process that is equivalent to EPA's authority over domestic refiners and possible sanctions are not equally available to ensure accurate reports by foreign parties. Again, EPA believes it unlikely that all foreign governments desiring to import reformulated or conventional gasoline to the U.S. would either consent or be able to provide adequate assurance of foreign reporters' amenability to EPA legal process.

The integrity of the reformulated gasoline program is also affected by EPA's ability to verify the baseline that applies to each batch of gasoline produced domestically or imported. The

averaging period, the compliance approach used for each parameter in 1994 (per-gallon vs. average) must also be used for all of 1995. EPA believes this approach for average compliance gasoline produced in 1994 is appropriate, because it represents the alternative that preserves the opportunity for refiners and importers to meet standards on average for this category of gasoline, with the smallest regulatory burden for regulated parties and for EPA. EPA considered, and rejected, the alternative of allowing parties to use only the per-gallon standards during 1994, because of the adverse impact on flexibility of such a restriction.

EPA also rejected the option of requiring that average standards must be met separately for gasoline produced or imported during 1994.<SUP>71 EPA believes there would be no significant environmental consequence of combining 1994-gasoline with 1995-gasoline for averaging purposes, but that the regulatory burden of separate accounting for 1994-gasoline would be significant. The simple model standards that will apply for gasoline produced or imported during 1994 are limited to oxygen, benzene, and toxics emissions performance, because this gasoline will not be VOC-controlled. These parameters are regulated because of toxic pollution concerns, and have the relatively long averaging period of twelve months because the threat of toxic pollution is long-term, cumulative in nature. EPA believes that combining the limited volume of 1994-gasoline with 1995-gasoline is consistent with the long-term averaging approach to toxics generally.

\7\1 A refiner or importer who produces or imports reformulated gasoline using the average standards, but who uses only the pergallon standards during 1995, would be required to meet the average standards using the 1994-gasoline only.

VIII. Anti-Dumping Requirements for Conventional Gasoline

A. Introduction

Section 211(k)(8) of the Act requires that average per gallon emissions of specified pollutants from non-reformulated (i.e., conventional) gasoline use must not deteriorate relative to emissions from 1990 gasoline, on a refiner<SUP>72 basis. Compliance is measured by comparing emissions of a refiner's conventional gasoline against those of a baseline gasoline. An individual baseline, consisting of fuel parameters and emissions, is developed for each refiner based on the quality of its 1990 gasoline, although under certain circumstances the individual baseline is the statutory baseline fuel parameters and emissions. To implement this requirement, EPA is promulgating requirements known as the anti-dumping provisions for conventional gasoline producers and importers. These requirements apply to all conventional gasoline producers and importers whether or not they also produce or import reformulated gasoline.

\7\2For ease in discussion, the term ``refiner", as used in this discussion of the anti-dumping program, will hereafter include refiners, blenders and importers. Where appropriate, blenders and importers will be mentioned specifically.

This section describes the key features of the anti-dumping provisions (excluding the compliance and enforcement provisions applicable to conventional gasoline which are discussed in Section IX). The requirements discussed in this section are detailed primarily in Sec. 80.90 to Sec. 80.93 in the accompanying regulations. This section also highlights major comments received on EPA's proposals in this area and how this final rule differs from those proposals. Additional supporting information can be found in Section VII of the associated Regulatory Impact Analysis (RIA).

B. Emission Requirements

1. Introduction

Section 211(k)(8) of the Act requires that EPA promulgate regulations ensuring that, for each

refiner, average per gallon emissions of VOC, CO, NO<INF>X and toxic air pollutants from its conventional gasoline do not increase over emissions from the gasoline introduced into commerce by that refiner in calendar year 1990. Emissions are to be measured on a mass basis, and each of the four pollutants is to be considered separately. Increases in NO<INF>X emissions due to oxygenate use may be offset by equivalent or greater mass reductions in the other pollutants. The regulations promulgated today address exhaust benzene, total exhaust toxics and NO<INF>X emissions from conventional gasoline use. In addition, under the simple model, refiner specific caps are set for sulfur, olefins and T90. EPA is not promulgating specific requirements for emissions of VOCs or CO, as EPA believes that the regulations promulgated herein, in conjunction with various other agency regulations and Clean Air Act requirements, will adequately meet the emissions limits for all four pollutants specified in section 211(k)(8). A detailed discussion of EPA's reasons for adopting this approach may be found in the Agency's July 9, 1991 proposal and, in summary, in the RIA.

Section 211(k)(8) authorizes this approach as that provision requires that EPA promulgate regulations ``ensuring" that conventional gasoline meet certain requirements on a refiner specific basis, but does not mandate that EPA promulgate regulations for each of the four pollutant categories. This provision therefore provides EPA with the discretion to fashion a regulatory program that ``ensures" these results. While a relatively straightforward approach to this would involve emissions requirements for each of the four pollutant categories, it need not if the regulatory program otherwise achieves the required result.

While the language used by Congress in section 211(k)(8)(A) supports this interpretation, there are several other provisions in section 211(k) where Congress clearly specified that EPA promulgate various requirements, and such language is conspicuously missing from section

211(k)(8)(A). See, for example, section 211(k)(8)(D) (``The Administrator shall promulgate an appropriate compliance period * * *''), section 211(k)(1) (``regulations shall require the greatest reduction in emissions * * * taking into consideration * * *''), section 211(k)(2) (``regulations * * * shall require that reformulated gasoline comply with paragraph (3) and * * * each of the following requirements * * *''), section 211(k)(4)(A) (``The regulations * * * shall include [certification procedures] * * *''), section 211(k)(7) (``The regulations * * * shall provide for the granting of an appropriate amount of credits * * *''). While EPA received several comments on the proposed conventional gasoline requirements, no one disagreed with the above interpretation of EPA's authority under section 211(k)(8)(A).

2. Emission Requirements Prior to January 1, 1998 Prior to mandatory use of the complex model on January 1, 1998, the requirements of section 211(k)(8) of the Act will be met by requiring that the annual average exhaust benzene emissions of a refiner's conventional gasoline not exceed its baseline exhaust benzene emissions. The exhaust benzene emissions due to conventional gasoline can be determined using the simple model discussed in Section III. Only the effects of fuel benzene and fuel aromatic content on exhaust benzene are included in this model.

When the simple model is used for compliance, the annual average sulfur, olefin and T90 values of a party's conventional gasoline cannot exceed its baseline values of those parameters by more than 25 percent. These limits will provide some additional assurance that conventional gasoline emissions of toxics and NO<INF>X will not rise prior to use of the complex model. EPA does not expect the levels of these parameters in conventional gasoline to naturally increase due to the reformulated gasoline program, since the simple model for reformulated gasoline simply caps these three fuel parameters at their baseline levels and does not require their reduction.

A refiner may also use the complex model for determining compliance prior to its mandatory use. Because all of the fuel parameters affecting exhaust benzene emissions are part of the model (benzene, aromatics, RVP, sulfur, olefins, E300, E200, and oxygen) there is no need for separate ``caps" on fuel parameters as associated with the simple model.

A refiner's baseline exhaust benzene emissions are determined by evaluating the refiner's baseline fuel parameter values in the model chosen by the refiner for compliance. At the end of a compliance period, the average fuel parameter values of a refiner's conventional gasoline over that period are evaluated in the same compliance model used to determine the refiner's baseline emissions. The resulting emission values are then compared to the baseline emission values to determine if the party is in or out of compliance with the anti-dumping requirement. While there was general support for the regulatory approach taken by EPA, several commenters suggested specific revisions to the emissions requirements. EPA's responses are discussed in the RIA. However, none of the comments caused EPA to change its proposed requirements, and all of the above provisions are being promulgated essentially as proposed.

EPA had proposed that while a refiner may choose to use either the simple model or the complex model prior to January 1, 1998, it must use the same model for both the reformulated gasoline and the anti-dumping programs. Several commenters disagreed with this last restriction. EPA is, however, promulgating this requirement as proposed because the anti-dumping and reformulated gasoline provisions are inherently tied together. The specific model used to certify reformulated gasoline will affect which fuel components are likely to be dumped. To avoid incentives to dump, the effect of these components on conventional gasoline emissions should be evaluated on the same basis as the reformulated gasoline emissions. Otherwise, incentives will exist to shift dirty components to conventional fuel areas using whichever model predicts the

lowest emissions increase due to those components.

3. Emission Requirements Beginning January 1, 1998 Beginning January 1, 1998, the requirements of section 211(k)(8) of the Act shall be met by requiring that the exhaust toxic emissions and the NO<INF>X emissions of a party's conventional gasoline not exceed that party's baseline exhaust toxic and NO<INF>X emissions. Compliance with this requirement shall be determined using the complex model described in Section IV.

The exhaust toxics emissions requirement under mandatory use of the complex model includes all five pollutants defined in section 211(k)(10)(C) as toxics. These are exhaust benzene, formaldehyde, acetaldehyde, 1,3-butadiene and POM. Benzene emissions occur in both exhaust and nonexhaust emissions, and accordingly, section 211(k)(10)(C) does not limit the toxic air pollutant benzene to exhaust benzene. However, as stated, EPA is only promulgating regulations applicable to exhaust benzene. Nonexhaust benzene emissions will be effectively controlled by the summertime volatility controls applicable to conventional gasoline.<SUP>73 The sum of the baseline exhaust emissions of each of the five toxics is the value that must not be exceeded by the sum of the exhaust emissions of these toxic pollutants due to a refiner's or importer's annual average conventional gasoline.

\7\3 No credit can be taken nor penalties received under the anti-dumping program for nonexhaust benzene reductions, or increases. Nonexhaust benzene emissions decrease due to RVP reductions, which are a VOC reduction strategy already considered under the anti-dumping program as the reason for not explicitly controlling VOC emissions.

NO<INF>X emissions from conventional gasoline use are also controlled beginning January 1, 1998. Although EPA is concerned that high oxygenate levels may contribute to increased NO<INF>X emissions, the Act states that any NO<INF>X emissions increase in conventional

gasoline due to oxygenate use can be offset by VOC, CO and toxic emission reductions. EPA is addressing this provision of the Act by allowing compliance with the anti-dumping NO<INF>X emission requirement to be determined on either a nonoxygenated basis or an oxygenated basis, as discussed further in paragraph C.5.e of this section.

C. Requirements for Individual Baseline Determination

1. Introduction

Compliance under section 211(k)(8) of the Act is measured against an individual baseline (comprised of individual baseline fuel parameter and emission values) which is determined for each refiner if sufficient data exist from which to determine a baseline representative of that refiner's 1990 gasoline. Additionally, the Act states that if no adequate or reliable data exist regarding the gasoline sold by a refiner in 1990, the refiner must use the statutory baseline gasoline fuel parameters<SUP>74 as its baseline fuel parameters.

\7\4 The statutory baseline gasoline for anti-dumping purposes is discussed further in paragraph C.3.e of this section.

2. Requirements for Refiners, Blenders and Importers a. Requirements for producers of gasoline and/or gasoline blendstocks. No adverse comments were received on the proposal that a refinery which primarily produces gasoline blendstocks from crude oil (including crude oil derivatives) and mixes those blendstocks to form gasoline be subject to baseline determination using any, or a combination of, the three data types described below in paragraph 3. The requirements are being promulgated essentially as proposed. Likewise, no adverse comments were received regarding the proposal to exempt (from the anti-dumping requirements) those entities which produce and/or supply gasoline blendstocks to refiners and blenders, but do not produce gasoline. Hence EPA is not promulgating anti-dumping requirements for such entities.

b. Requirements for purchasers of gasoline and/or gasoline blendstocks. As proposed in April 1992, refiners who exclusively purchase blendstocks and/or gasoline and mix these purchased components to form another gasoline (i.e., blenders) must use Method 1-type data (as described in paragraph 3 below). Lacking sufficient Method 1-type data, the blender shall have the anti-dumping statutory baseline as its individual baseline. Most who commented on this issue suggested that blenders should be allowed the same opportunities as refiners to use 1990 and post-1990 gasoline and blendstock data. Otherwise, a blender may have to ``reformulate" its conventional gasoline. Commenters also stated that this provision penalized blenders for not sampling their 1990 fuel when there were no such requirements. As discussed in the proposal, EPA does not believe that use of blendstock data or post-1990 gasoline or blendstock data would allow an accurate portrayal of a blender's 1990 production. Additional comments are discussed in the RIA; however, none led to a change in the proposed requirements for blenders.

c. Requirements for importers of gasoline. On April 16, 1992, EPA proposed that those who imported gasoline into the U.S. in 1990 must use Method 1-type data (as described in paragraph 3). Lacking sufficient Method 1-type data, the importer would have the anti-dumping statutory baseline as its individual baseline. An importer who did not import gasoline into the U.S. in 1990, but who does so after 1994, would also have the anti-dumping statutory baseline as its individual baseline. EPA proposed that if a U.S. importer is also a refiner and imported 75 percent or more of the 1990 gasoline production of a refinery into the U.S. in 1990, it could determine a baseline for that refinery using the three data types described in paragraph 3 below. Most commenters agreed with EPA's overall proposal concerning importers. Some felt, however, that the ``75 percent" criteria was self-selecting--only those importer/refiners with higher baseline emissions relative to the statutory baseline would choose to develop an

individual baseline. Those importer/refiners with relatively low baseline emissions would use the statutory baseline, and thus dumping could result, since they would be complying with a baseline which was less stringent than one based on their own 1990 gasoline quality. EPA agrees that ``dumping'' could occur, but expects it to be minimal since few importing refineries are likely to meet the ``75 percent'' criteria. Nonetheless, EPA is requiring that all importers which are also refiners utilize Method 1-, 2- and 3-type data to determine the individual baselines of their refineries which meet the 75 percent criteria.

One commenter claimed that location, not percent of production imported, dictates enforceability. However, EPA believes that enforcement of a non-domestic refinery is governed less by location and more by the willingness of the company and/or country to open its refinery for compliance visitations. Another commenter specifically stated that Canadian refineries should be treated the same as domestic refineries for the purpose of establishing baselines. As stated, EPA believes that it will be relatively easy to accurately determine the quality of the gasoline produced in 1990 at a refinery outside of the U.S., for sale to the U.S., if a significant amount (i.e., 75 percent) of the production of the refinery came to the U.S. Independent of where the refinery is located, if less than this amount was imported, it will be more difficult to combine information on refinery operations and blendstock and gasoline data (i.e., Methods 2 and 3-type data) and allocate such information so as to establish the quality of the refinery's 1990 gasoline which was sent to the U.S. Some commenters felt that an importer should be allowed to use all available 1990 and later data to establish a baseline and have its baseline verified by an auditor. However, as stated in the proposals, EPA believes that significant dumping could occur if post-1990 data is allowed since that data may not represent the importer's 1990 gasoline. EPA is thus promulgating this essentially provision as proposed. d. Requirements for exporters of

gasoline. EPA's proposals did not explicitly discuss whether gasoline exported from the U.S. in 1990 would be included in individual baseline determinations. However, because exported gasoline did not contribute to pollution in the U.S. in 1990, a producer of gasoline exported from the U.S. in 1990 shall not include the exported gasoline properties or volumes in its baseline determination. A refiner which exports all of its future gasoline outside of the U.S. is not subject to the anti-dumping requirements. 3. Types of Data

a. Introduction. As discussed in the July 9, 1991 proposal, EPA is concerned that use of the statutory baseline parameters in lieu of determining an individual baseline could have severe competitive effects. At the same time, EPA realizes that there likely will be insufficient directly measured 1990 fuel parameter data available from which to determine representative individual baseline parameters. Thus, in order to make the best use of available data in developing representative individual baselines, EPA is specifying the types of data and calculations that may be used in the baseline determination. In the proposals, three methods (Methods 1, 2 and 3) were described for refiners to use to determine their baseline parameter values. Method 1-type data consists of a refiner's measured fuel parameter value and volume records of its 1990 gasoline. As discussed in the RIA, Method 1-type data can be from 1990 production or 1990 shipments as long as no data is double counted and all available production and shipment data are used in the baseline determination. Method 2-type data consists of a refiner's 1990 gasoline blendstock composition data and 1990 gasoline and blendstock production records. Method 3-type data consists of a refiner's post-1990 blendstock composition data and 1990 gasoline and blendstock production records. For both Methods 2 and 3, these provisions apply to those blendstocks used in the production of gasoline within the refinery. Under certain circumstances, Method 3- type data may consist of post-1990 gasoline composition data as well. No major

comments were received negating the appropriateness of utilizing these three methods or data types. A few minor comments were submitted which are addressed in the RIA. Several commenters did request that EPA allow combinations of Methods 1, 2 and 3-type data to be used in baseline determination, in order to improve the use of available data and thus develop more accurate and representative 1990 individual baselines. EPA agrees that a more representative baseline will result if a combination of higher and lower levels of data is used rather than excluding the better data (i.e., Method 1) due to it being inadequate by itself. EPA had proposed that the different types of data must be used in a hierarchical order, i.e., Method 1-type data has to be used first, and if insufficient Method 1-type data was available for a given fuel parameter, Method 2-type data would be used, etc. EPA is modifying the proposals to allow baseline parameter values to be determined using a combination of the methods, or data types, if necessary, although the same hierarchy must be maintained. Thus, insufficient Method 1-type data may be supplemented with Method 2-type data and, if data were still lacking, the available Method 1 and 2-type data would be supplemented with Method 3-type data. b. Inclusion of gasoline blendstock. Although not specified in the proposals, EPA is requiring that gasoline blendstock which becomes gasoline (per 40 CFR 80.2(c)) solely upon the addition of a specific type and amount of oxygenate, be included in the baseline determination. Unless evidence is provided which indicates that such blendstock was blended with oxygenate other than ethanol or less than 10.0 volume percent ethanol, or was not further modified downstream, the refiner shall assume that said blendstocks were blended with ten (10.0) volume percent ethanol. This requirement provides some assurance that baseline emissions are not artificially low due to selective inclusion or exclusion of such blendstock. Requiring that the blendstock be assumed to have been blended with a specific amount of ethanol (unless otherwise shown) will result in a

more stringent baseline than if the blendstock were assumed blended with a lower volume of ethanol, a different oxygenate or not further modified. Hence, the burden of proof of actual disposition of such product is on the refiner.

c. Method 3 additional information. In order that the fuel parameter values obtained with Method 3-type data adequately represent the 1990 values of those parameters, EPA proposed that the refiner must provide detailed documentation of its 1990 and post-1990 refinery operations, including comparing 1990 and post-1990 operations, intermediates and products, and other aspects of refinery operations which would cause its post-1990 gasoline to differ from its 1990 gasoline. For instance, if post-1991 data is used, appropriate adjustments must be made for the refinery operational changes that occurred due to the 1992 volatility rules and the oxygenated fuels program, two situations which could cause post-1990 operations to differ from 1990 operations. The required documentation will assist the baseline auditor in its verification and EPA in its review of the refiner's baseline submission. This provision is being promulgated as proposed.

EPA proposed to allow post-1990 gasoline data to be used to estimate 1990 baseline parameters under certain circumstances. In addition to requiring the same detailed documentation of 1990 and post- 1990 operations as above, in the February 26, 1993 proposal, EPA specified that the volumetric fraction of each blendstock in post-1990 gasoline must be within ten (10.0) percent of the volumetric fraction of the same blendstock in 1990 gasoline. For example, if a refiner's 1990 gasoline contained 30 volume percent reformate, post-1990 gasoline data may be used in the baseline determination as long as it contained 27.0-33.0 volume percent reformate and provided all other blendstocks also conformed to these requirements.

EPA received many comments stating that the use of post-1990 gasoline data was more accurate, and less costly, than using post-1990 blendstock data. EPA agrees, and is allowing the

use of gasoline data under certain circumstances, as discussed below. Commenters also suggested that verification of differences and similarities between 1990 and post-1990 operations and the resulting gasoline should be left to the baseline auditor rather than compared to specific criteria. While the auditor will verify the comparison of 1990 and post-1990 operations, etc., all issues verified by the auditor will also be reviewed by EPA. In addition to the technical reasons discussed below, specifying such criteria (i.e., the ``10 percent'' criterion) will ensure the uniformity of both auditor and EPA evaluations and verifications.

As discussed in the RIA, unless post-1990 blendstock fractions are sufficiently similar to 1990 blendstock fractions, adjustments for differences will have to be made at the blendstock level, making any gasoline data moot. Larger differences than 10 percent in large streams such as reformate could affect overall aromatic levels by up to 3 volume percent, which is clearly significant. For smaller streams, however, a 10 percent change could be insignificant. Therefore, EPA is expanding its criteria by allowing post-1990 gasoline blendstocks to meet the larger of (1) the 10 percent criterion, or (2) be within two absolute volume percent of the blendstock volumetric fraction in 1990 gasoline. As discussed in the RIA, this means of utilizing post-1990 gasoline should adequately cover typical fluctuations in both large and small volume blendstocks without unduly sacrificing accuracy. Post-1990 gasoline data for which a single 1990 blendstock does not meet either of the blendstock fraction requirements cannot be used in the baseline determination. However, EPA also received comment that many refiners would not be able to use post-1990 gasoline data, even with the expanded criteria, simply due to butane utilization changes from 1990. Because butane, and thus RVP, were reduced after 1990 due to volatility controls, and because RVP reductions reduce emissions, EPA is exempting butane from the blendstock requirements for using post- 1990 gasoline.

d. E200 and E300. Although not previously included among the fuel parameters for which baseline values are required to be determined, EPA is now requiring that baseline values be determined for the fuel parameters E200 and E300, the percent evaporated at 200 deg.F and 300 deg.F, respectively. Although these two fuel parameters replace T50 and T90, respectively, in the complex model, T90 baseline values are still required to be determined for use prior to mandatory complex model use. EPA expects E200 and E300 values to be determined directly from gasoline or blendstock data, even if distillation information has to be regraphed. If such a determination is not possible, E200 and E300 values may be estimated from otherwise acceptable T50 and T90 data using the equations specified in the regulations. Thus, this addition will not void any data collected under the proposed criteria. e. Anti-dumping statutory baseline. As mentioned earlier, in some cases a blender or importer may not be able, or be allowed, to develop an individual baseline from its own data. In that case, the refiner or importer would have the statutory baseline as its individual baseline. Although the compliance period for conventional gasoline is annual (as discussed in the proposals and as described in section IX), emissions determined using the complex models are determined on a summer and winter basis. Thus, there are separate anti-dumping summer and winter baseline fuel parameters, which are the statutory summer baseline specified in the Act, and the winter baseline determined by EPA as required by the Act. Few comments were received concerning the proposed annual average statutory baseline (which is a weighted average of the statutory summer and winter baselines, as discussed in the proposals). None of the comments led to a change in the annual average baseline fuel parameter values.

4. Data Collection and Testing Requirements a. Sampling requirements. In the February 26, 1993 proposal, EPA proposed minimum sampling requirements in order to ensure that enough

gasoline or blendstock samples were taken from which to develop a representative baseline. Namely, for Method 1-type data, at least half of the batches (by number of batches, not volume), or shipments if not batch blended, in a calendar month shall have been tested for a particular parameter. For Methods 2 and 3-type data, at least weekly sampling of continuous blendstock streams and, if blendstocks are produced on a batch basis, sampling of at least half of the batches of each blendstock produced in a month is required. Many refining industry commenters protested this proposal claiming that they had sampled based on the April 16, 1992 proposal requiring ``sufficient" sampling, and that EPA's more specific requirement could void data collected, and the time and money spent. EPA agrees that the sufficient frequency of sampling may vary according to circumstance (such as the degree of variation in operating conditions), and is modifying its latest proposal by accepting, under certain circumstances, data which does not meet the requirements specified above. However, if less than the minimum data is used, the refiner must document, and the auditor verify, why the data is less than the minimum requirements and why it is sufficient in quantity and quality to use in the baseline determination. EPA retains the right to reject use of less than the minimum data if the documentation is incomplete or the justification not technically sound. In all cases,<SUP>75 all available samples must be analyzed and the results used in baseline determination if more than the minimum number of samples are available.

\7\5 In instances where a sample was mislabeled or improperly tested or where an analysis results in a value which is significantly different from expected values based on operating conditions, etc., the result may be excluded from the baseline calculation. However, all instances of such exclusion must be documented and verified by the auditor.

Additionally, EPA is promulgating its proposal to require at least three months worth of both

summer and winter data. As discussed in the RIA, this requirement ensures that the collected data covers the typical changes in gasoline composition which occurs across seasons. Although not explicitly stated in the proposal, to better distinguish between summer and winter, summer months shall consist of any month in which gasoline was produced to meet the federal summer volatility requirements. It is not necessary for such low volatility fuel to be produced for the entire month. Winter months are any months which could not be considered summer months.

b. Post-final rule data collection. Few comments were received on the February 26, 1993 proposal that if a refiner collects data after promulgation of these regulations, the data must be collected no later than the end of the third month of the first three full months during which summer gasoline is produced by the refiner following promulgation of the final rule. EPA is modifying this provision slightly, requiring only that proof must be given that additional data was needed and indeed was collected after today.

c. Negligible parameter values. On February 26, 1993, EPA proposed to exempt refinery streams from testing for one or more specific parameters if a stream contains negligible amounts of those parameters. The affected fuel parameters are benzene, aromatics, olefins and sulfur. EPA also proposed threshold criteria for each fuel parameter, i.e., the amount of the fuel parameter in a stream at or below which the parameter would be considered negligible. EPA has changed the values of some of the threshold criteria based on comment. Specifically, the benzene threshold value was reduced and the sulfur threshold value increased. A full discussion of these changes can be found in the RIA; the actual values are also listed in Sec. 80.91. Oxygen was added to the list of parameters that may be considered negligible under certain circumstances. Other than those modifications, the requirements are being promulgated as proposed. d. Test methods. Many commenters were concerned that the test methods they had

used to analyze samples would be invalid because they were not the same as the required test methods being promulgated today for reformulated gasoline. EPA had proposed, on April 16, 1992, that sampling and measurement techniques used to determine baseline parameters must yield results which are equivalent to the results obtained per the techniques and methodologies specified for the reformulated gasoline program. However, because of constantly evolving test methods, in addition to the fact that the final regulations concerning reformulated gasoline test methods will only be known today, it would be inappropriate to disallow data because it was not tested according to certain methods when there were no requirements to do so. Nonetheless, EPA is concerned that the test methods used be adequate. In a modification of the proposal, EPA will accept data determined using methods other than those required under the reformulated gasoline program, upon petition and approval, as long as the methodology or technique was a standard industry-accepted measurement technique at the time the measurement was taken. If data to be used in the baseline determination was, somehow, obtained via a more accurate test method prior submission of the baseline to EPA, it may be acceptable. The baseline auditor will verify that the techniques used to determine the baseline data meet the requirements discussed above. Although not previously discussed, EPA is allowing oxygen content, as well as oxygenate volume, to be determined from oxygenate blending records. The composition of the oxygenate, with regard to the other required fuel parameters, must still be determined.

5. Baseline Fuel Parameter Determination a. Closely integrated gasoline producing facilities. Based on earlier comments, on February 26, 1993 EPA proposed to allow blending facilities (or terminal operations) to be included in a refinery's baseline determination if a closely integrated relationship could be shown between the refinery and the terminal. EPA also requested comments as to what criteria would constitute ``closely integrated". Many commenters supported

allowing a single baseline for such a situation. Requiring 60-75 percent of a blending facility's blendstocks to have come from a single refinery was suggested for defining a closely integrated refinery-terminal relationship. EPA is promulgating the proposal with the requirement that at least 75 percent of the blendstock received at the terminal in 1990 must have come from the associated refinery. EPA believes this is a reasonable number, as explained in the RIA, considering that oxygenates and butane, among others, are blended into gasoline after the refinery, while constituting much less than 20 percent of gasoline by volume. In the case of an aggregate refiner baseline, as discussed in paragraph 6.d, a terminal or terminals may be included in the aggregate baseline if each terminal received at least 75 percent of its blendstock from one or more of the aggregated refineries with which it is associated. For instance, the 75 criteria is satisfied if the terminal received 25 percent of its 1990 blendstock from refinery A and 50 percent from refinery B, refinery A and B being part of an aggregate baseline. Alternatively, it may also have received the entire 75 percent from either refinery A or B.

Although not previously proposed, some comments were received regarding other types of closely integrated facility relationships. EPA is thus allowing a single individual baseline to be determined for two or more refineries (or sets of gasoline blendstock-producing units) which are geographically near each other but are not within a single refinery gate, and whose 1990 operations were significantly interconnected. The burden is placed on the refiner to show that its two facilities are ``significantly interconnected". In this case, the two facilities will have a single set of baseline parameter values and associated emissions.

Some commenters suggested that U.S. refiners with import operations also be allowed to develop a single baseline covering their refining and importing operations. EPA rejected this suggestion because it would be difficult for EPA to track a fuel's production location before the

fuel is or was imported, particularly when considering 1990 production. Also, allowing such a situation would amount to trading between foreign and domestic refineries, which was not mandated nor intended by Congress.

b. Seasonal weighting. In the February 26, 1993 proposal, EPA proposed that a refinery's own production volumes of summer and winter gasoline (based on RVP) be used in the weighting of data on a summer and winter basis. This change from the previous proposal received a lot of support, and is being promulgated as proposed on February 26, 1993. As discussed in paragraph 6.a, the 1990 annual baseline volume is the larger of the gasoline volume produced in or shipped from the refinery in 1990. Thus, a refinery's own baseline volumes of summer and winter gasoline (either on a produced or shipped basis) shall be used for weighting the summer and winter anti-dumping emissions and sulfur, olefins and T90 values. As proposed, all volume which is not summer volume is considered winter volume.

c. Grade weighting. On February 26, 1993, EPA proposed that average fuel parameter values be determined first for each grade of gasoline produced, and the resulting values weighted by the fraction of each grade sold in the period over which the value is determined. Based on comments, the proposal has been modified and, for this final rule, ``grade" shall mean each traditional grade of gasoline produced in the refinery in 1990, e.g., regular, midgrade, and premium, not each different integer octane number.

d. Equations. The equations have been modified slightly from the February 1993 proposal to require that specific gravity be included in the determination of baseline sulfur and oxygen contents. Because both of these fuel parameters are determined on a weight basis, and because gasoline and blendstocks vary, sometimes significantly, in weight-tovolume ratio, correct accounting of such terms must include a weightto -volume conversion. Additionally, separate

average baseline fuel parameter values must be determined for summer and winter, as discussed previously.

e. Oxygen in the baseline. In the April 16, 1992 proposal, EPA discussed several methods of accounting for oxygen in the baseline determination. Several commenters suggested that the baseline be determined on a nonoxygenate basis so as not to penalize those who ``reformulated", i.e., produced cleaner gasoline, early. Others supported including only the positive difference (i.e., an increase in oxygen use) between 1990 and post-1994 oxygenate use. Others suggested variations--excluding it in the baseline but including it in compliance, and including it as is in both the baseline and compliance calculations. Others argued that oxygenate used in conventional gasoline designated for areas for CO reduction purposes should not be considered.

The anti-dumping provisions of section 211(k)(8) are based on a comparison of 1990 and post-1994 emissions, and use of an oxygenated baseline for compliance determination would be the most appropriate baseline. EPA is therefore requiring baseline fuel parameter values to be determined on an oxygenated basis. Section 211(k)(8)(C) of the Act also requires that increases in NO<INF>X emissions, due to conventional gasoline oxygenate use, be offset by reductions in the other three pollutants. As stated earlier, significant VOC and CO reductions will occur even without the reformulated gasoline rulemaking. To ensure that an increase in NO<INF>X emissions is not associated with the use of oxygen, EPA is allowing refiners to choose to use either an oxygenated or nonoxygenated baseline when determining NO<INF>X emissions. Compliance would be measured on the same basis. Under this provision, a refiner could choose to switch from a nonoxygenated to an oxygenated baseline, beginning with the next averaging period. The initial choice to use an oxygenated baseline, or the switch from a nonoxygenated to an oxygenated baseline is, however, permanent. EPA expects a refiner to operate its refinery to its advantage, and thus it is not likely to make such decisions (of whether to use a

nonoxygenated or an oxygenated baseline for NO<INF>X purposes) lightly. Additionally, Congress intended that the anti-dumping program compare a refiner's 1990 emissions with its post-1994 emissions, based on its fuels' actual average composition, i.e., its actual oxygenated baseline or oxygenated compliance value. EPA is allowing refiners to use a nonoxygenated or an oxygenated baseline when determining NO<INF>X emissions in order to fulfill the provision that NO<INF>X increases due to oxygenates be offset. However, to minimize unnecessary administrative complications due to every refiner potentially changing its baseline NO<INF>X value annually, EPA is allowing only the one-time change. In determining the nonoxygenated parameter values from the oxygenated values, only the physical dilution and distillation effects of the oxygenate shall be considered. Adjustments to refinery operations that would have been different had oxygenates not been used (i.e., octane) shall not be included because many potential adjustments are possible. For instance, if a refiner's actual (oxygenated) baseline aromatics were 30 volume percent and actual oxygenate use was 5 volume percent, the nonoxygenated baseline aromatics value would be 31.6 volume percent, or 30/(100%-5%). While it is likely that reformer severity may have been higher had oxygenates not been used (thus resulting in perhaps even a higher aromatics baseline value) such operational effects due to oxygenate use shall not be considered because they cannot be known with certainty. Additionally, while the oxygen content and the effects of oxygenate volume on parameters will be excluded from the nonoxygenated baseline determination, the total gasoline volume (including actual 1990 oxygenate use and the volume of oxygenate assumed or shown to have been blended with gasoline blendstock as discussed in paragraph 3.b) will be used to determine the individual 1990 baseline volume.

A few commenters suggested that oxygenate volume be excluded from conventional gasoline

volumes. EPA disagrees--Congress specified that certain NO<INF>X emissions increases be offset, but did not specify how to deal with baseline volumes, leaving it to EPA's discretion. Additionally, the reason for allowing NO<INF>X emissions to be evaluated on a nonoxygenate basis in the first place is so as not to penalize refiners whose emissions increase due to oxygenate use. It is possible that restricting baseline volumes by excluding oxygenate volumes could penalize some refiners. Thus, it would be inappropriate for EPA to restrict the applicability of the individual baseline to the nonoxygenated gasoline volume.

f. Work-in-progress. EPA proposed criteria for allowing a work-inprogress (WIP) adjustment on April 16, 1992. In the February 26, 1993 proposal, EPA expanded the proposed criteria in several areas. A WIP adjustment allows the refiner to modify its baseline volumes and fuel parameter values (which affect emissions) to account for the WIP. A more detailed discussion of the rationale and background concerning WIP adjustments may be found in the RIA.

Several comments reiterated a concern expressed in the regulatory negotiation discussions that a WIP adjustment should be a limited exception, structured so that few refiners would qualify. EPA agrees that the criteria for a WIP adjustment should be fairly stringent, as the adjustment was intended only for those for whom a significant investment had already been made in order to comply with another government mandate. Additionally, a broad program of adjustments could indicate that EPA exceeded its equitable discretion under Alabama Power, as discussed in the RIA. Nonetheless, most commenters supported allowing WIP adjustments for significant differences between unadjusted and WIP-adjusted values of exhaust benzene emissions, exhaust toxics emissions, NO<INF>X emissions, sulfur, olefin or T90, instead of just exhaust benzene emissions as proposed in April 1992. A few commenters suggested reducing the threshold comparison criteria (between WIPunadjusted and adjusted values) of 5 percent for emissions and

25 percent for sulfur, T90 and olefins. EPA agreed with the substance of these comments and is reducing the thresholds between WIP and non-WIP values. A discussion of the proposed and final threshold criteria is presented in the RIA. EPA's final threshold values under this requirement are that WIP-unadjusted and adjusted emissions values must differ by 2.5 percent, and sulfur, olefins and T90 values by 10 percent. Again, only one of the thresholds has to be met in order to meet this requirement.

A few comments were received regarding the requirement that the WIP be associated with other regulatory requirements, specifically, the type of the regulatory requirement that would be acceptable to EPA. EPA is clarifying this, and WIP based on a legislative or regulatory environmental requirement enacted or promulgated prior to 1/1/91 will be deemed as meeting the ``associated with other regulatory requirement" criterion.

In the February 26, 1993 proposal, EPA clarified its definition of WIP as

- * * projects under construction in 1990 and projects which were contracted for and which will be completed in time for the refiner to comply with the regulatory requirement * * *<SUP>76

\7\6From Sec. 80.91(d)(5) of the February 1993 proposal.

This language was included to ensure that the WIP was completed in a timely manner, since the WIP was ostensibly being done to comply with a regulatory requirement. Less than timely completion would indicate that the regulatory requirement was not a driving factor in initiating the WIP. However, EPA is not promulgating such a completion requirement because if the WIP project was not completed in a timely manner, the refiner is likely to be losing money since it cannot produce a certain fuel or meet certain emission requirements, etc. The contractual requirement discussed below will ensure that the refiner was committed to the WIP project.

Additionally, EPA is specifying that an adjustment will only be allowed for WIP projects involving installation or modification of one or more gasoline blendstock- or distillateproducing units in the refinery.

As stated, EPA also proposed (and is promulgating) that WIP shall include projects under construction in 1990 and projects for which contracts were signed prior to or in 1990 such that the refiner was financially committed to permanently changing refinery operations. Clarification was requested as to what types of contracts would be considered to have committed the refiner to the WIP. EPA believes that the contracts should have committed the refiner to purchasing materials and construction of the WIP. As such, a process engineering design contract does not commit the refiner to actually implementing the WIP and would not be considered a WIP contract under this provision. Other suggestions included allowing WIP adjustments for work not necessarily associated with a regulatory requirement, including WIP which would have a beneficial effect on a refinery's overall environmental performance. Again, WIP adjustments were intended to apply only to specific situations, i.e., those relatively costly projects undertaken for mandated environmental betterment. Thus, it would not be appropriate to expand the criteria (as suggested) for qualifying for a WIP adjustment.

On February 26, 1993, EPA proposed allowing either the ``10 percent'' criteria from the April 16, 1992 proposal or a $10 million minimum cost of the WIP to satisfy the capital-at-risk criteria. Some commenters suggested that the requirements be more stringent--one suggested a threshold value of $50 million. Others suggested reducing the threshold value to $5 million (possibly a more appropriate value for small refiners) or 5 percent, or eliminating any ``dollar'' amount because no one should be penalized because its investment fails to meet arbitrary time or cost criteria. EPA believes that such criteria must be specified in order to prevent a proliferation

of adjustments for other than true hardship cases. Additionally, the proposed criteria are fairly stringent requirements, and more stringent requirements could threaten the viability of some refiners. EPA could have relaxed the criteria, i.e., set a lower dollar amount. However, as stated, the WIP provision was included to provide relief for those projects that would significantly financially impact the refiner, and not for inconsequential modifications. Thus either the ``10 percent'' criteria or the $10 million criteria will be allowed to satisfy this requirement.

Many comments and suggested language were received concerning EPA's February 26, 1993 proposal that a WIP adjustment would simultaneously cap a refiner's anti-dumping emissions and sulfur, T90 and olefin values at five (5) percent over the corresponding statutory baseline values. Most commenters opposed such simultaneous caps. EPA also proposed that a refiner whose WIP-adjusted baseline emissions exceeded 105 percent of anti-dumping statutory baseline emissions did not have to reduce its emissions further (to 105 percent of the anti-dumping statutory baseline) if its WIP-adjusted baseline emissions were less than its pre-WIP baseline emissions. EPA believes though that some limit on the adjustment must be included to minimize environmental harm. The limit must apply to all who are allowed a WIP adjustment. Thus, EPA is limiting WIP increases in baseline exhaust benzene, exhaust toxics and NO<INF>X emissions and sulfur, olefins and T90 values to the larger of (1) the unadjusted individual baseline value of each emission or fuel parameter or (2) 105 percent of the corresponding anti-dumping statutory baseline value. Note that sulfur, olefins and T90 are only constrained when compliance is determined using the simple model. When compliance is determined using the complex model, the WIPadjusted values of these three fuel parameters are not subject to the caps. Given EPA's discretion in even granting WIP adjustments, EPA believes this provision provides an acceptable balance between allowing WIP adjustments and ensuring

that increases in emissions over 1990 levels are minimized.

g. Baseline adjustment for extraordinary circumstances. In the February 26, 1993 proposal, EPA requested comments on allowing the baseline fuel parameters, volumes and emissions of a refinery to be adjusted due to the occurrence of specific extraordinary or extenuating circumstances which caused its 1990 gasoline production to be different than it would have been had the circumstance not occurred. Many commenters felt that baseline adjustments should be allowed for the proposed situations as well as for others. One commenter stated that every site is unique, thus baseline adjustments should be evaluated on a case-by-case basis. Still others suggested that EPA allow adjustments only for small refiners, or for several other specific circumstances. Several commenters, however, felt that no extenuating circumstance baseline adjustment should be allowed. Among the reasons cited for not allowing adjustments were: competitive inequities; Congressional intent to account for 1990 only; difficulty in defining extenuating circumstances; use of this provision as a method of voiding work-inprogress requirements.

While EPA's policy objective is not to establish a broad adjustment program, EPA is allowing adjustments for specific extenuating circumstances. Allowable circumstances include unforeseen, unplanned downtime of at least 30 days of one or more gasoline blendstock producing units due to equipment failure or natural cause beyond the control of the refiner, or for nonannual maintenance (turnaround) downtime which occurred in 1990. These types of adjustments reflect instances where the 1990 baseline truly deviated from the otherwise expected baseline (historic and future), had the incident not occurred. EPA is also permitting baseline adjustments for certain refiners which produced JP-4 jet fuel in 1990. As discussed in the RIA, EPA believes that it has authority to allow such adjustments due to the discretion afforded EPA by Congress. Additionally, Alabama Power v. Costle<SUP>77 gives EPA ``case-by-case

discretion" to grant variances or even dispensation from a rule where imposition of the requirement would result in minimal environmental benefit but the would extremely burden a regulated party. While the anti-dumping requirements, in general, apply to all conventional gasoline whether or not reformulated gasoline is also produced, under the criteria mentioned above, no ``dumping" will occur since no reformulated gasoline will be produced by such refiners. Congressional intent with regard to the anti-dumping program will be met while not unduly burdening those that meet the specified criteria.

\7\7Alabama Power Company v. Costle, 636 F.2d 323.357 (D.C. Cir 1979).

JP-4 baseline adjustments are generally limited to single-refinery refiners because such refiners have no way to aggregate baselines<SUP>78 so as to reduce the combined burden of JP-4 phaseout and the anti-dumping requirements on their operations. In some cases, if no relief were granted in this area, the viability of a refinery could be at stake. EPA is also allowing baseline adjustments for multirefinery refiners as long as each of the refineries meets all of the specified criteria.

\7\8As discussed in paragraph 6.d, a refiner with more than one refinery may determine an aggregate baseline, i.e., a conventional gasoline compliance baseline, which consists of the volume-weighted emissions or fuel parameters, as applicable, of two or more refineries.

JP-4 production must have also constituted a significant portion of a refiner's 1990 production in order for a significant burden to exist. In its February 1993 proposal, EPA requested comment on what minimum portion of a refinery's 1990 production JP-4 should have constituted for the circumstance to be extenuating, and several different ratio options were suggested by commenters, as discussed in the RIA. As discussed in the RIA, EPA is requiring that the ratio of the refinery's 1990 JP-4 production to its 1990 gasoline production must equal or exceed 0.5.

While the adjusted emission baselines of those approved for JP-4 adjustments are likely to be higher than their actual 1990 baselines (primarily due to increased benzene and aromatics) EPA expects minimal negative environmental affects. Because the number of refineries meeting the criteria is expected to be small and the total production of all such refineries is also small, less gasoline is affected by any baseline adjustments than if the criteria were less stringent. In this situation, EPA believes that any negative environmental effects resulting from the allowed adjustments are justifiably balanced by the reduced burden on qualifying refiners. Although EPA is allowing baseline adjustments for the specific circumstances described above, it in no way means this to be a precedent to allow adjustments for actual or so-called extenuating circumstances now or in the future. The language of the Act does not allow EPA to broadly permit baseline adjustments. Additionally, a baseline is neither unrepresentative of 1990, nor incalculable, because of post-1990 changes in crude availability, fuel specifications, fuel markets, etc. Congress certainly knew that such changes could affect baseline determinations, yet in creating the anti-dumping requirements it did not require EPA to consider such factors in determining baselines. In fact, no direction was given to account for two mandated fuel changes, Phase II volatility control and lead phaseout. It is likely that circumstances for which baseline adjustments are not allowed may negatively affect some refiners. However, every refiner will be subject to future changes in markets, fuel quality requirements, etc., all of which will affect the refiner's gasoline quality and ability to comply with its anti-dumping baseline. Thus, except in extreme cases, baseline adjustments due to post-1990 changes which affect refiners would not be practical (due to the myriad circumstances which may exist) nor necessarily fair, and are definitely not supported by the language of the Act nor the intent of Congress. EPA is appropriately not providing for such adjustments. h. Inability to meet these requirements.

Although not previously discussed, EPA realizes that many unique circumstances will arise regarding the baseline determination. As such, if a refiner or importer is unable to comply with one or more of the requirements specified for baseline determination, it may be allowed to accommodate the lack of compliance in a reasonable, technically sound manner. It must petition EPA for such a variance, and the alternative must be verified by the baseline auditor. The petition may or may not be approved by EPA. 6. Baseline Volume and Emissions Determination

a. Individual baseline volumes for refiners, blenders and importers. The individual baseline volume of a refiner which utilizes Methods 1, 2 and or 3-type data to determine its baseline fuel parameters shall be the larger of the total volume of gasoline produced in or shipped from the refinery in 1990, excluding volumes exported. This provision is added because 1990 shipments and production could differ. As discussed in the RIA, while 1990 gasoline shipments actually contributed to emissions, data is available (by Methods 1, 2 or 3) on 1990 gasoline production. The difference between the shipped and produced gasoline is expected to be negligible with respect to baseline determination. Volumes of oxygenates blended into gasoline at the refinery and oxygenate assumed or shown to have been blended into gasoline downstream of the refinery, as discussed in paragraph 3.b, shall be included. The baseline volume shall be determined after all adjustments, such as for work-in-progress or extenuating circumstances, have been performed.

The individual baseline volume of a blender utilizing only Method 1-type data or having the anti-dumping statutory baseline as its individual baseline shall be also the larger of the volume of 1990 gasoline produced in or shipped from the refinery (blending facility). The individual baseline volume of an importer utilizing only Method 1 or having the anti-dumping statutory baseline as its individual baseline shall be the total volume of gasoline imported into the U.S. in 1990.

b. Limitations on applicability of individual baselines. In the April 16, 1992 proposal, EPA

proposed to limit the applicability of a refiner's or importer's individual baseline to a certain portion of its post-1994 conventional gasoline production or imports and apply the anti-dumping statutory baseline parameter values to the volume in excess of this amount. This excess amount would reflect the portion of the post-1994 growth in gasoline production over 1990 volumes that is attributed to conventional gasoline. The refiner or importer would comply with the production weighted average of the two resulting baseline emission figures.

Most of the commenters agreed that the increase in conventional gasoline production over this baseline volume should be subject to the statutory baseline. However, commenters disagreed as to whether the increase should be determined relative to actual production or relative to capacity. In addition to agreeing with the proposal, those favoring production as the basis cited the difficulty in determining gasoline refining capacity. Those favoring capacity as the basis commented that if baselines are applied on a production basis, conventional gasoline production could be limited below capacity and reduce the capability to supply conventional gasoline to some markets. Also, commenters claimed that factors such as the Persian Gulf war and the phaseout of JP-4 jet fuel made 1990 production unrepresentative of normal industry refining activity.

While EPA agrees that 1990 production may have been unrepresentative of normal operations in some ways, it believes that some unusual circumstances occur every year and the limitation of individual baselines to 1990 production, as described above and in the RIA, is the better choice for minimizing emission increases and market distortions. Thus EPA is promulgating this requirement as proposed except that baseline volume shall be based on 1990 gasoline shipments rather than production. Gasoline shipments better reflect volumes actually in the market in 1990. For a refiner, its 1990 total volume would be its 1990 actual gasoline shipments, including adjustments to account for WIP or extenuating circumstances, and including oxygenate volume.

c. Baseline emissions determination. Every refinery must develop a set of individual baseline parameters, volume and emissions. Prior to 1/1/98, compliance with baseline emissions must be determined using either the simple or complex model equations for exhaust benzene. In the case of the simple model, only fuel benzene and fuel aromatics are considered--VOC changes which may affect benzene emissions are not considered. Beginning 1/1/98, compliance with baseline emissions must be determined using the complex model for total exhaust toxics and NO<INF>X.

As discussed in Section IV, there are separate complex models from which to determine summer and winter emissions. As such, average baseline fuel parameters must be determined separately for summer and winter. Conventional gasoline baseline emissions (and sulfur, olefins and T90 values) will first be determined separately, on a summer and winter basis, using summer and winter fuel parameter values (except that average winter RVP will be 8.7 psi, as discussed in the RIA). The summer and winter emissions (and sulfur, olefins and T90 values) will then be weighted by the respective summer and winter baseline volumes to determine annual average baseline emissions (and sulfur, olefins and T90 values). Compliance is determined in a similar manner. As also discussed in Section IV, there are two complex models--one for use prior to 2000 and one for use in 2000 and beyond. As such, every refinery will have two sets of baseline total exhaust toxics and NO<INF>X emissions--one set applicable prior to 2000, and one in 2000 and beyond. Note that baseline fuel parameter values and volume do not change, only the emissions determined from those parameters. In the case of NO<INF>X, it is likely that every refinery will actually have four potential baseline NO<INF>X emissions values, depending on whether a nonoxygenated or an oxygenated baseline is used to evaluate NO<INF>x emissions (see discussion in paragraph 5.e). Many commenters were also concerned about the effect of future revisions to the complex model on 1990 baseline emissions and future compliance,

particularly should additional fuel parameters be added to the model. In the event of revisions to the complex model, EPA will promulgate additional regulations which will consider the impact on conventional gasoline, including consideration of lead time, cost and other factors.

d. Conventional gasoline compliance baselines. The Clean Air Act refers to gasoline sold by a refiner, blender or importer (section 211(k)(8)(A)), but does not specify an averaging unit for baseline determination nor whether gasoline and the resulting emissions should be treated on a refinery or refiner basis, thus authorizing EPA to adopt the most appropriate method of complying with the anti-dumping requirements. EPA considered three possible options for baseline determination--refinery basis, refiner basis, or some combination of the two. During the regulatory negotiation, it was agreed that EPA would propose allowing a refiner to elect to establish an individual baseline. In the April 1992 proposal, EPA proposed that refiners could choose either refiner-wide averaging or refinery-by-refinery averaging, but not a combination of the two. This was to avoid situations where multi-refinery refiners could game the system and potentially gain a significant competitive advantage over single-refinery refiners. Although, as stated, EPA expressed concern about multi-refinery refiners' having an advantage over single-refinery refiners, few commenters agreed with EPA's April 1992 proposal. Of those that did agree, some suggested that all refineries should be required to comply with their individual baselines, to minimize any advantages for multirefinery companies over single refinery companies. However, most of the comments received on this issue claimed that EPA had not interpreted this provision correctly from the Agreement-inPrinciple. The agreement, according to the commenters, allowed refiners to decide how to aggregate their refineries' baselines. Some suggested that if aggregations are only allowed as proposed, compliance with the simple model, complex model and/or anti-dumping requirements would be difficult.

Upon further consideration of this issue, EPA is allowing refiners to choose to have one or more individual refinery conventional gasoline compliance baselines and one or more ``refiner" baselines (i.e., more than one grouping of two or more refineries to form a compliance baseline). Because the decision to group or not group refineries is a onetime decision, and because a refiner's total emissions will be conserved, the possibility of gaming will be reduced. When two or more refineries are grouped for the purpose of having a single conventional gasoline compliance baseline, the refineries shall be considered ``aggregated", and the resulting baseline shall be an ``aggregate" baseline.

Aggregate baselines are determined by volume-weighting the baseline emissions and sulfur, olefin and T90 values of the aggregated facilities. If aggregated, all NO<INF>X baselines in an aggregate must be determined either on a nonoxygenated or an oxygenated basis, using the corresponding nonoxygenated or oxygenated baseline parameters. The choice of whether a refinery has its own individual baseline or is part of an aggregate baseline is a one-time decision, i.e., refineries cannot be re-aggregated annually. Also, an individual baseline (including both parameter and emission values) must be calculated for each refinery, whether that refinery will be part of an aggregate baseline or not. This is required because reformulated gasoline compliance under either the simple model or early use of the complex model is on a refinery basis. Also, individual baselines must be known in the event that a refinery is sold or shut down, or other reason why the baseline would need to be recalculated. EPA also proposed to require individual refinery baselines for refineries located in specific isolated geographic areas where localized dumping was occurring. EPA is retaining this proposal in the final rule. Few comments were received on this issue and are addressed in the RIA.

e. Baseline recalculation. In its April 16, 1992 proposal, EPA proposed certain instances when

baselines would have to be recalculated. Few adverse comments were received. In the case of a refinery which is shut down after 1990, EPA had proposed that an aggregate baseline which contained the shutdown refinery would not change unless the shutdown refinery was sold. However, upon further consideration, EPA believes that it is more appropriate, and more consistent with the other recalculation requirements, to remove a shutdown refinery's contributions to an aggregate baseline. EPA is thus promulgating this requirement with the other proposed requirements.

D. Baseline Auditor

In the February 26, 1993 proposal, EPA expanded on the qualifications and responsibilities of the baseline auditor which each refiner or importer must utilize to verify its baseline. Refiners and importers utilizing the anti-dumping statutory baseline, if so allowed, are not required to have a baseline auditor.

1. Auditor Qualifications

EPA proposed specific criteria for determining the independence and technical capability of the auditor (and where applicable, the auditor's organization and/or certain persons working with or for the auditor). A few commenters suggested minor changes in the proposed criteria as discussed in the RIA, and some of these recommendations are incorporated in the final rule.

EPA also proposed that the auditor retained by a refiner or importer may also have developed the baseline for the same refiner or importer as long as all other auditor qualification requirements were met. Several commenters who addressed this issue agreed that the auditor should be allowed to also be the baseline preparer, mostly from a cost savings point-of-view. Other commenters pointed out that the independence of the review would be lost. While this may diminish to some extent the value of an independent audit, the cost and time savings are

relevant considerations. In balancing these concerns, EPA is allowing the auditor to also have prepared the baseline.

2. Auditor Certification

EPA proposed two options by which potential auditors could be approved by EPA as qualified to audit baselines. One option involved precertification by EPA; under this option, a statement of the auditor's qualifications would be submitted to EPA. EPA would officially certify an auditor, or if no comment were received from EPA within a specified time, the auditor would be considered certified by default. The other option required the refiner or importer to ensure that the auditor is qualified, and to provide a qualification statement for the auditor with the baseline submission. In this case, the auditor would not be pre-certified by EPA.

Most commenters agreed with allowing both options. One commenter thought that EPA should notify auditors of approval rather than letting them be certified by default, and that they should be pre-certified. EPA believes that, in most cases, it will respond in some form, not necessarily approval or disapproval, prior to the end of the allowable time period. In the proposal, EPA allowed the auditor to be certified by default after 30 days. However, EPA now believes that it should not allow an auditor to be certified by default until 45 days after application or today's date, whichever is later, because of possible delays, e.g., mail delivery, in receiving an auditor's qualification statement.

EPA had also proposed that within thirty (30) days of hiring a baseline auditor or today's date, whichever is later, each refiner and importer must inform EPA of the name, organization address and telephone number of the auditor hired. EPA now believes this information is not critical and thus is eliminating this requirement. This information is only required in the baseline submission.

3. Auditor Responsibilities

The major issues raised by commenters concerning auditor responsibilities was whether the auditor was to verify the baseline determination or recalculate the baseline itself. EPA agrees that the auditor should independently verify the baseline determination, and is not required to develop a second baseline determination. However, the auditor must take whatever action is necessary to ensure that all baseline submission requirements are fulfilled. EPA is also requiring that a refiner's baseline submission include a statement prepared and signed by the primary analyst stating that, to the best of its knowledge, it has thoroughly reviewed the sampling methodology and baseline calculations, and that they meet the requirements and intentions of the rulemaking, and that it agrees with the final baseline parameter and emission values listed in the baseline submission. EPA is not requiring auditors to submit (to EPA) an audit plan prior to beginning the baseline verification process.

E. Baseline Submission and Approval

1. Timing

Few comments were received concerning the timing of baseline submissions, and EPA is promulgating its requirements that baselines be submitted to EPA within 6 months of today's date and that baselines determined using data collected after today be submitted to EPA by September 1, 1994. EPA will consider petitions for an extension of these deadlines, however, submitters should take note that late submissions could cause delays in receiving EPA decisions on approval of their baselines. EPA is promulgating such timing requirements in order to give the industry sufficient time to generate and audit individual baselines. EPA is well aware of the need for expeditious review of submitted baselines, and encourages submission of baselines as soon as possible after today.

2. Petitions

In many situations in the baseline determination, a refiner or importer is required to petition EPA in order to be allowed to account for a variance from a requirement. In other situations, the refiner or importer is required to ``show'' that it meets certain criteria. In either of these situations, approval will be given by the Director of the EPA's Office of Mobile Sources, or designee. As will be discussed below, all petitions must be included in the baseline submission--in fact, in most cases, baseline calculations have to be determined both with and without the requested variance, since the outcome of the request would be unknown. Although not previously proposed, EPA is allowing petitions and ``showings'' to be submitted prior to the baseline submission deadline although an early decision on the request is not guaranteed. Nonetheless, the baseline submission must be submitted by the applicable deadline, whether or not EPA has decided to approve or disapprove the request.

3. Submission Requirements

Based on comments to its proposals, EPA has determined that a number of its proposed baseline submission requirements were not pertinent to a baseline determination. EPA is thus requiring that, at minimum, the information described in Sec. 80.93 be included in the baseline submission. Information on crudes and refinery unit operations is still required because EPA may wish to evaluate baseline submissions using a refinery flow simulation system. EPA plans to develop a sample baseline submission document which should be available soon after today.

Although not previously required in the baseline submission, the blendstock-to-gasoline ratio for each calendar year 1990 through 1993 must now be included. The blendstock-to-gasoline

ratio is discussed further in Section IX, and is defined in Sec. 80.102. Determination of this ratio is also subject to auditor verification, as is the entire baseline submission.

EPA may require submittal of more extensive data if such data is required to aid EPA in its review of the baseline submission, or if discrepancies in any part of the baseline submission are found. Additional information that may be useful to EPA in its evaluation of the baseline submission may be included, at the refiner's discretion. EPA is slightly expanding the content required in the statement signed by the chief executive officer which is included in the baseline submission. The statement must state that the data submitted is the extent of the data available for the determination of each of the required baseline fuel parameter values, that sampling methodology and baseline calculations meet the requirements and intentions of the rulemaking, and that the final baseline parameter and emission values listed represent its 1990 gasoline, to the best of his or her knowledge.

If a refiner or importer desires that certain information in the baseline submission not be publicly available, it must a assert a claim of confidentiality, as discussed below, and include this request in the baseline submission.

4. Baseline Approval

EPA will approve baselines and upon approval publish, in the Federal Register, the standards for each applicable gasoline producing or importing facility of a refiner, blender or importer. Because a party's baseline will become its standard for compliance with the antidumping and early reformulated gasoline requirements, EPA believes the standard should be publicly known, and as discussed below, there are no compelling reasons not to publish such information. Additionally, such standards are not entitled to confidential treatment (40 CFR 2.301(e), special

little difference between this value and the actual value if the statutory baseline emissions are known. Another suggestion included providing such information only upon request. Again, there is little difference between ``on request'' and publishing such information at one time. One commenter stated that no where in the statute was publication of baseline data required. While that is true, EPA must release the standards (and any other non-CBI information) upon request, and there are benefits from publishing them, e.g., citizen suit enforcement, more information to the general public about EPA's standards, better deterrence to noncompliance. Commenters did not provide any clear or compelling reason for not publishing the standards, and there are benefits from publishing them, as discussed. Additional comments, which did not affect the final rule, and EPA responses can be found in the RIA.

IX. Anti-Dumping Compliance and Enforcement Requirements for Conventional Gasoline

The final rule implements section 211(k)(8) of the Clean Air Act which provides that beginning January 1, 1995, average per gallon emissions of specified pollutants from non-reformulated or conventional gasoline use must not deteriorate relative to emissions from 1990 gasoline on a refiner or importer basis. This could occur, for example, if fuel components or properties that cause harmful emissions and that are removed from or limited in reformulated gasoline, are ``dumped'' into conventional (non-reformulated) gasoline. As a result, the ``antidumping'' program limits the emissions of specified pollutants from conventional gasolines, and under certain circumstances from blendstocks (based on EPA's authority under section 211(k)(c) of the Act).

The final rule differs from the earlier proposals primarily in the area of blendstock accounting. These changes are discussed in greater detail below.

Refiners and importers must establish individual 1990 baselines in order to compare the

confidentiality rules applicable to Clean Air Act cases). Thus, upon Agency approval of a baseline, the baseline exhaust benzene, exhaust toxics and NO<INF>X emissions values and 125 percent of the baseline sulfur, olefins and T90 values shall be published. This information is required on a refinery or facility basis because the reformulated gasoline requirements are on a refinery-basis, and because this information needs to be known in the event a refinery changes owners.

While EPA previously proposed that it would publish baseline parameter values by refinery, it now believes that no substantive comments could result from publishing such information because of the complexity of the baseline determination. Additionally, EPA realizes that certain aspects of the baseline determination must necessarily remain confidential in order to prevent serious, negative competitive effects. Thus EPA is allowing any person or organization providing information to EPA in connection with the determination of a baseline, including establishing a baseline or investigating possible baseline discrepancies, to assert that some or all of the information submitted, except the baseline emissions or parameter values which are the standard for a refiner, refinery or importer, is entitled to confidential treatment as provided in 40 CFR part 2, subpart 2. Such confidential information shall be clearly distinguished from other information to the greatest extent possible, and clearly labeled ``Confidential Business Information." Information covered by a claim of confidentiality will be released by EPA only to the extent allowed by procedures set forth in 40 CFR part 2, subpart B. Failure to submit a claim of confidentiality with submission of the baseline, however, may lead to release of information by EPA without further notice to the submitter (40 CFR 2.203 (a) and (c)).

Most comments on this topic addressed the publication of individual baseline information. Several commenters suggested publishing a refiner's or importer's anti-dumping index (ADI), a ratio of the individual baseline emissions to the statutory baseline emissions. However, there is

emissions characteristics of gasoline they produced or imported in 1990 with the emissions characteristics of conventional gasoline produced or imported in 1995 and later. See section VIII for a discussion of the methods required for development of an individual baseline. The baseline for refiners who were not in business in 1990, and in certain cases for other importers and refinerblenders, is the statutory baseline found at Sec. 80.91(c)(5) of the regulations.

Refiners who operate more than one refinery have the option of demonstrating compliance with the anti-dumping provisions for each refinery separately, or the refiner may group its refineries and show compliance for each group separately provided that each refinery's performance is accounted for either separately or as part of a refinery group. The refiner's refinery-grouping election may not be changed after the initial election. Blendstock tracking and accounting as discussed below, must be determined in accordance with the same refinery grouping as chosen for compliance purposes. The final rule has three separate sets of compliance standards for determining compliance with the anti-dumping requirements, however, only one set applies to a refiner or importer at any one time. These are the Simple Model standards and Optional Complex Model standards, that apply in 1995, 1996, and 1997; and the Mandatory Complex Model standards that apply in 1998 and thereafter. All three sets of standards require refiners and importers to average certain properties of conventional gasoline and demonstrate compliance with prescribed standards, which in some cases are actual fuel properties and in others are emissions products calculated from specific fuel properties.<SUP>79

\7\9 For a discussion of issues concerning which properties or pollutants are covered in the federal anti-dumping program, see section VIII of this preamble and the Notice of Proposed Rulemaking, published July 9, 1991 (56 FR 31219-31222)

Under the Simple Model standards, a refiner or importer is required to demonstrate on an

annual basis that average exhaust benzene emissions of conventional gasoline do not exceed the refiner's or importer's 1990 compliance baseline for exhaust benzene emissions, and that average sulfur, olefins and T90 each do not exceed 125% of the refiner's or importer's 1990 average levels for each of these parameters. Under the Optional Complex Model standards, annual average levels of exhaust benzene emissions, volume weighted for each batch as determined under the applicable model, may not exceed the refiner's or importer's 1990 average exhaust benzene emissions calculated in the same manner. Under the Mandatory Complex Model standards, annual average levels of exhaust toxic emissions and NO<INF>X emissions, volume weighted for each batch as determined under the applicable model, may not exceed the refiner's or importer's 1990 average levels for exhaust toxic emissions and NO<INF>X emissions calculated in the same manner. Refiners and importers are required to determine the emissions performance for each batch of gasoline in either the applicable summer or winter model based on whether or not the batch has been designated to comply with EPA volatility requirements. The final rule provides that in 1995, 1996, and 1997, refiners and importers may determine compliance based on either the Simple Model standards or the Optional Complex Model standards, at their option. However, a refiner that produces reformulated gasoline under the Simple Model must use the Simple Model anti-dumping standards, and a refiner that produces reformulated gasoline under the optional complex model must use with the Optional Complex Model anti-dumping standards. Refiners and importers are required to include the following products, which are produced or imported during each averaging period, in anti-dumping compliance calculations: conventional gasoline; nongasoline petroleum products if required under the blendstock accounting provisions (discussed below); and gasoline blending stock which becomes conventional gasoline upon the addition of oxygenate (discussed below). In

addition, oxygenate that is added to a refiner's or importer's gasoline or blendstock downstream of the refinery or import facility may be included in the refiner's or importer's compliance calculations only if the refiner or importer is able to demonstrate with certainty that the oxygenate has been added to that party's gasoline. Provisions are included in the final rule for the manner in which refiners and importers must make this demonstration. Oxygenate blended downstream may be counted by a refiner or importer if the refiner or importer demonstrates that it performed the oxygenate blending. In addition, the oxygenate may be counted if the blending is conducted by a blender with whom the refiner or importer has a contract that specifies procedures intended to ensure proper blending, and the refiner or importer monitors the downstream blending operation through audits, inspections, and sampling and testing of the gasoline produced at the blending operation. These downstream oxygenate blending provisions are discussed more fully below. Refiners and importers also have the option of determining compliance for exhaust NO<INF>X emissions performance either with or without the inclusion of oxygenates provided that the baseline NO<INF>X performance is determined in the same manner. Refiners and importers may elect to switch one time under certain conditions which are discussed more fully in Section VIII of the Regulatory Impact Analysis. Enforcement of the anti-dumping standards under this rule consists of a combination of mechanisms to monitor compliance with the regulations, including: refiner/importer sampling and testing of gasoline produced or imported; record keeping; reporting; annual audits by refiners and importers; and Agency audits. The final rule specifies the manner in which penalties will be determined for violations of the anti-dumping requirements of the final rule. These penalty provisions include calculations of the number of days of violation, and presumptions regarding the properties of gasoline.

Under the anti-dumping requirements in the final rule, certain refiners are also required to

account for blendstocks that are produced. The principal policy reason for imposing blendstock tracking and accounting is that, unless proscribed, certain refiners will have an incentive to transfer blendstocks based on the differences in baselines that will exist. These differences thus could result in the transfer of the ``production" of gasoline from a refinery with a more rigorous baseline to another refinery with a less rigorous baseline, through the transfer of blendstocks. This transfer-of-blendstocks concern is described more fully below. Refiners and importers are required to establish a baseline of the volume of certain specified blendstocks<SUP>80 produced and transferred to others, relative to the volume of gasoline produced (the ``blendstock-to-gasoline ratio"). This baseline is established by determining, for each calendar year 1990 through 1993, the volumes of blendstocks produced and transferred, the volumes of gasoline produced, and calculating the annual and four-year average blendstock-to-gasoline ratios. Refiners may include in baseline calculations only those volumes of blendstocks for which the refiner is able to demonstrate the blendstock was used in the production of gasoline. This baseline blendstock-to-gasoline ratio must be established using the baseline auditing procedures described in Sec. 80.93.

\8\0The blendstock tracking requirements apply only to certain blendstocks that have properties that are ``dirtier" than the 1990 Clean Air Act average fuel parameters for anti-dumping. Use of the term ``blendstock" also means that tracking applies only to nongasoline petroleum products that are used in the production of gasoline (see 40 CFR 80.2(s)). As a result, refiners and importers are not required to track non-gasoline petroleum products where the refiner or importer can demonstrate these products are used for a purpose other than gasoline blending.

Beginning in 1995, refiners are required to determine the blendstock-to-gasoline ratio for each calendar year compliance period. This compliance period ratio is then compared with the

baseline ratio. During each year 1995 through 1997, the annual compliance period ratio is compared with the largest ratio of the individual annual baseline ratios. Beginning in 1998, the compliance period ratio will be the running four-year average of the annual ratios,<SUP>81 instead of an annual ratio. This is then compared with the baseline four-year average ratio.

\8\1 In 1998, the compliance period ratio consists of the average of the ratios for 1995 through 1998; in 1999, the compliance period ratio consists of the average of the ratios for 1996 through 1999; etc.

In the case of both the annual comparisons before 1998, and the average comparisons beginning in 1998, if the compliance period ratio exceeds the baseline ratio by ten percent or more special blendstock accounting must be carried out by the refiner, unless certain exemptions are met or the refiner has been granted a waiver by EPA.<SUP>82 These exceptions to blendstock accounting are discussed more fully below.

\8\2 For example, if the largest baseline annual ratio for a refinery is 5%, and the 1995 ratio for that refinery is 10%, this increase would be 100%, and special blendstock accounting would be required for that refinery unless exempted for other reasons.

In a case where special blendstock accounting is required, the refiner must include the properties of all blendstocks produced in its compliance calculations for the two subsequent averaging periods. In addition, the refiner must notify any recipients of such ``accountedfor'' blendstocks that the downstream party may not include the properties in that party's calculations. The second and subsequent times that the compliance period ratio exceeds the ten percent threshold, special blendstock accounting is required for the four years subsequent to the second exceedance.

The final rule includes a provision that allows a refiner to petition for a waiver from special blendstock accounting in a case where the volume of blendstock produced is the result of

extreme or unusual circumstances which are clearly outside the control of the refiner and could not have been avoided, such as fire, accident, or natural disaster.

Blendstock tracking is limited under the final rule. Refiners with an annual compliance period blendstock-to-gasoline ratio of three percent or less are exempt from special blendstock accounting, regardless of how the compliance period ratio compares with the baseline ratio. This exemption is included because, in such a circumstance, there are limited environmental effects, and the party has a limited ability to gain economic advantage from transferring production to a less rigorous baseline. The final rule also excludes from the blendstock tracking and accounting requirements blendstocks that are exported, transferred to a refiner for use as a refinery feedstock, or are transferred between refineries that have been aggregated under a common baseline. Also excluded are transfers for other than gasoline blending purposes, e.g., transfers of product for use in a chemical process, because such otherthan -gasoline-blending use renders the product non-blendstock by definition. Such transactions are not indicative of an attempt by a refiner to gain an improper baseline.

A. Blendstock Accounting

EPA's 1991 Notice Of Proposed Rulemaking for the anti-dumping program proposed compliance based on the properties of finished gasoline only and did not address accounting for blendstocks. Commenters on this Notice stated that the proposed anti-dumping regulations would create the opportunity for certain refiners to avoid the normally-applicable baseline through the transfer of gasoline blendstocks to another refiner with a more lenient baseline. This opportunity derives from the fact that the 1990 individual baseline for a large percentage of the refiners is more stringent than the 1990 average. According to the commenters, a refiner who operates a refinery with such a more-stringent-than-average baseline could effectively achieve an

easier baseline by shifting blendstocks produced at that refinery to another refinery with a less stringent baseline. Gasoline could then be ``produced" at the blendstock-transferee refinery using blendstocks produced at the blendstock-transferor refinery. This strategy could be accomplished, for example, through the transfer of blendstocks to a refiner-blender who would use the statutory average baseline, such as a new business. Commenters stated concern that refiners using this strategy would achieve a significant competitive advantage.

EPA agreed with these concerns, and in the 1992 Supplemental Notice of Proposed Rulemaking proposed requirements on the methods of accounting for gasoline blendstocks. This blendstock accounting proposal was included to limit the adverse environmental effects of such production transfers, by ensuring that each refiner meets the anti-dumping standards using the baseline that properly applies to the refiner.

In order to avoid the baseline-shifting possibility, EPA proposed that refiners would be required to either include in the refinery compliance calculations all blendstocks produced at a refinery, or the products would be prohibited for subsequent use in blending gasoline. Under this proposal, refiners would be required, with certain exceptions, to chemically mark un-accounted-for products to ensure they are not used by downstream parties for gasoline blending. This proposal included provisions intended to ensure that blendstock would be included in anti-dumping compliance calculations by only one refiner, and prohibitions intended to prevent the use of marked petroleum products in gasoline production.

Commenters on the 1992 proposal objected to the blendstock accounting/marking scheme because of its impact on the refining industry. Commenters raised concerns regarding the liability scheme and the paperwork requirements associated with the accounting and the marking of blendstocks. Commenters also contended that the marking of blendstocks would be disruptive

to the chemical industry. In response to these comments, EPA proposed a significantly revised blendstock accounting mechanism in the 1993 Supplemental Notice of Proposed Rulemaking. This proposal eliminated the requirement that refiners account-for or mark blendstocks and eliminated the prohibitions and liabilities associated with the use of marked blendstock. Under this revised mechanism, refiners would be required to monitor the volume of certain blendstocks produced at each refinery relative to the volume of gasoline produced. If for any year the proportion of a refinery's production that is blendstock (the ``blendstock-to-gasoline ratio'') increased relative to the refinery's baseline blendstock-to-gasoline ratio by ten percent or more, with certain exceptions the refinery would be required to account for all blendstocks produced at the refinery during the year of the failure, or in the alternative any blender-recipient of blendstock produced at that refinery would be required to use the refinery's baseline when accounting for such blendstock during the year of the failure. Under the proposal, a refiner would be exempt from special blendstock accounting if the refiner's blendstock-to-gasoline ratio for any compliance year is three percent or less, regardless of how the increase compares with the baseline ratio. Blendstock tracking would be required only for refiners having a 1990 baseline more stringent than the anti-dumping statutory baseline. These provisions were designed to limit the blendstock accounting provisions to those circumstances where there is likely to be an environmental problem. This also would help to avoid unnecessary costs and burdens on the regulated community. In any case where EPA can show that a refiner transferred blendstocks in order to evade a more stringent baseline, however, the special blendstock accounting would be required.

The proposed regulations would require refiners to track only specified blendstocks that have properties that are ``dirtier'' than normal anti-dumping baseline properties; a list of such

blendstocks was included. In addition, tracking would not be required under the proposal for petroleum products the refiner could establish are used for non-gasoline-blending purposes.

EPA received substantial comments on the blendstock accounting mechanism included in the 1993 proposal. Several comments addressed the manner in which the compliance period blendstock-to-gasoline ratios are compared to the baseline ratios. Several commenters said that the blendstock-to-gasoline ratio for any annual averaging period should be compared to the largest single-year ratio during the baseline period, and not to a multi-year averaging period as proposed. This change is necessary, according to one commenter, because refinery equipment is shut-down for maintenance during normal refinery operations (or a refinery equipment ``turnaround''), and that such turnarounds often will result in increased blendstock shipments from a refinery. An industry group commenter further stated that most refinery equipment goes through a maintenance turnaround every four years. Other commenters suggested that the possibility of triggers due to erratic blendstock-to-gasoline ratios should be solved by enlarging the ten percent ratio threshold. EPA agrees with the concerns raised by these comments, and has modified the manner in which blendstock-to-gasoline ratios are compared in the final rule. During 1995 through 1997, the annual compliance period blendstock-to-gasoline ratio is compared to the largest one-year ratio during the baseline period. Beginning in 1998, however, because of data availability due to the implementation of the reformulated gasoline regulations the compliance period ratio is a running average consisting of the average of the current year's ratio and the ratios from the three previous years. This four-year compliance period ratio is compared to the similar four-year baseline ratio. EPA believes this approach to evaluating blendstock-to-gasoline ratios responds to the concerns raised by the commenters, and will minimize if not eliminate the chance that the ten percent threshold will be exceeded because of

maintenance, turnarounds and other like events that do not indicate a transfer of production to achieve a less stringent baseline. For example, any increase in blendstock sales volume during the compliance period that is due to refinery equipment turnaround should be matched by blendstock sales volume during the baseline period that also is due to a turnaround. Beginning in 1998 the comparison of four-year averages should further dampen any unusual, short-term deviations from the normal proportion of refinery sales that is blendstock. EPA believes comparing the blendstock-to-gasoline ratio of a fouryear compliance period with a four-year baseline period provides the best indication of a refiner's overall approach to blendstock production, because of its correlation with the normal period of refinery equipment turnarounds. During the first three years of the program when a four-year compliance period is not possible, however, the approach of comparing each compliance year's blendstock-to-gasoline ratio with the largest single year's ratio during the baseline period is the best alternative.

EPA believes the one-year ratio comparison approach is inferior to the four-year ratio comparison approach as a long-term program mechanism, because under the one-year approach there is the potential for refiners to have large blendstock-to-gasoline ratios in each year that are not due to normal refinery operations, yet these ratios would be acceptable if smaller than the largest one-year ratio from the baseline period. The final rule nevertheless includes the one-year approach for 1995 through 1997, because refiners will be required to include 1995 through 1997 blendstock ratios in their 1998 four-year average ratio. Any refiner who has produced excess blendstock in order to ``game" the one-year comparison approach during the first three program years is likely to fail the more appropriate four-year comparison in 1998. EPA believes the likelihood such a refiner would violate the ten percent threshold and incur the consequent blendstock accounting requirements will constrain refiner gaming of this type. EPA has

retained the ten percent blendstock-to-gasoline ratio trigger in the final rule, however, because a trigger at this level is appropriate for the like-time-period comparisons used in the final rule. With the promulgated approach, EPA believes that blendstock sales increases in excess of the trigger are only likely to occur in cases where a refiner attempts to improperly gain use of a less stringent baseline.

Several comments focused on the two options proposed for special blendstock accounting, the first option with the refiner accounting for the blendstock and the second option with the downstream refinerblender using the baseline of the blendstock producer-refiner. These commenters stated that refiners using the refiner-accounting option would have difficulty if it became apparent late in the year that the ratio threshold would be exceeded, because the required adjustment must reflect the total volume of all blendstocks produced and sold during the entire year. These commenters stated that the refiner-accounting option also would be difficult to implement because downstream refinerblenders of the blendstock, who would have included blendstock received during the year in compliance planning, would have to recalculate compliance with the refiner-accounted blendstock excluded. Similar timing and complexity concerns were expressed in the case of a refiner who selected the option of shifting the refiner's baseline to blendstock recipients.

EPA agrees with these comments, and has modified the final rule as a result. In any case where the blendstock-to-gasoline threshold is exceeded, special blendstock accounting is required beginning in the subsequent averaging period. This change will avoid the timing and complexity problems of requiring refiners and downstream blendstock recipients to recalculate compliance retroactively for the compliance period during which the threshold is exceeded. In addition, EPA has rethought the option of allowing refiners to pass the refiner baseline to

blendstock recipients, and has excluded this option from the final rule. EPA believes that the burden of special blendstock accounting should fall on the refiner that produces the excess blendstock, and such parties should not be allowed to pass the accounting responsibility to downstream parties. EPA proposed the option of allowing refiners to pass the refiner-baseline to downstream blenderrefiners in order to allow more flexibility in meeting the anti-dumping requirements. EPA now believes that this flexibility advantage is outweighed by countervailing considerations, including the complexity that results from this option, the equity in placing the blendstock accounting responsibility only on the refiner who has control over the volume of blendstocks that is produced, and the inequity that could result if a refiner imposed a more stringent baseline on downstream blender-refiners.

One commenter expressed concern that the reason EPA proposed blendstock accounting measures was to prevent new blender-refiners from entering the market in order to correct a perceived ``loophole" in the proposed rules, and that such market manipulation by EPA is inappropriate.

EPA agrees that the anti-dumping program should not preclude new blenders from entering the market, and does not believe that the final regulations have such a result. Any refiner who enters the market beginning in 1995 will have the same regulatory requirements as refiners who were in business before that date. They of course will have the statutory baseline and not a baseline that is more stringent than the statutory baseline. A new refiner would therefore not be subject to the blendstock accounting requirements. EPA has implemented the following changes in the final rule in response to comments: (1) The gasoline portion of the compliance period blendstock-to-gasoline ratio has been expanded to include all gasoline produced, including reformulated gasoline and RBOB, because a comparison to conventional gasoline alone would more likely cause the trigger to be exceeded and not represent true incidences of

dumping; (2) straight run naphtha has been excluded from the list of applicable blendstocks that are included in the blendstock portion of the blendstock-to-gasoline ratio, because properties of this product are cleaner than the anti-dumping statutory baseline; and (3) feedstocks, exported blendstocks, and blendstocks transferred between refineries that are aggregated for compliance purposes are excluded from the blendstock portion of the ratio, as they are not indicative of a transfer of production to avoid a more stringent baseline. EPA proposed that refiners would be exempt from special blendstock accounting if the compliance period blendstock-to-gasoline ratio is three percent or less, regardless of how this ratio compares with the baseline ratio. One commenter stated that EPA should either reduce the three percent threshold for this exemption, or eliminate the exemption altogether. The commenter claimed that refiners could produce primarily dirty blendstocks (e.g., benzene) within the three percent limit for sale into the downstream market, which would result in environmental degradation. This commenter further stated that with the three percent exemption, only approximately fifteen percent of refiners would be required to monitor the blendstock-to-gasoline ratio under EPA's proposed scheme. This commenter also stated that the blendstock tracking provisions should apply to all refiners and not only to parties with more-rigorous-than-statutory baselines, because all parties have the opportunity to sell dirty blendstocks into the downstream market.

EPA disagrees with the concern raised by this comment. Any party who combines blendstocks to produce conventional gasoline, or who combines blendstocks (other than oxygenate) with conventional gasoline, is considered to be a ``refiner'' under the anti-dumping regulations, and is required to meet all anti-dumping standards and requirements. Moreover, such a blender-refiner is required to meet anti-dumping standards only on the basis of the volume and properties of the blendstock used, and may not include in compliance calculations the volume and properties of

any gasoline used in blending. Any blenderrefiner must, therefore, offset any ``dirty'' blendstocks used with sufficient ``clean'' blendstocks to meet the anti-dumping standards on average. Most downstream blender-refiners will be subject to the antidumping statutory baseline.

EPA believes these requirements on blender-refiners will limit the opportunities for refiners to produce and sell ``dirty'' blendstocks. In addition, because any ``dirty'' blendstocks must be offset with ``clean'' blendstocks the gasoline produced will cause no environmental degradation.

EPA does not agree with the comment that all refiners could gain an advantage from shifting blendstocks regardless of their baseline. Only refiners with a baseline more-stringent-than-statutory could shift blendstocks to another refiner with the average baseline and thereby circumvent the anti-dumping requirements. For a refiner with a lessstringent -than-statutory baseline, the statutory baseline is more stringent. As a result, blendstock shifted by such a refiner to another refiner with the statutory baseline would have to meet standards as measured against a more stringent baseline. A refiner with a lessstringent -than-statutory baseline similarly would not be able to circumvent the baseline provisions merely by shifting blendstock to another refiner with an even less stringent individual refinery 1990 baseline, because the volume of gasoline that may be produced against the individual refinery 1990 baseline is limited to the second refiner's 1990 equivalent gasoline volume.<SUP>83 Compliance for any gasoline produced in excess of the 1990 equivalent gasoline volume is measured against the Clean Air Act statutory baseline. In consequence, if blendstocks are shifted by one refiner to another with a more lenient baseline, in effect the shifted blendstock must meet standards measured against the statutory baseline.

\8\3The 1990 equivalent gasoline volume is a calculated volume that subtracts from the refiner's 1990 total gasoline volume the volume of reformulated gasoline produced by the refiner

during the compliance period.

As a result, EPA has not included in the final rule any provisions that would limit the volumes of blendstocks that are produced and sold, except for the provisions intended to address the baseline-shifting strategy.

B. Inclusion of Oxygenate in Anti-Dumping Compliance Calculations

Oxygenates are included in the set of products that may be included in anti-dumping compliance calculations under certain conditions, because the oxygenate used in the production of conventional gasoline alters the results of the anti-dumping compliance calculations. As a result, where a refiner or importer is able to establish that oxygenate is in fact added to gasoline or blendstock produced or imported by that party, it is appropriate to allow the refiner or importer to include the oxygenate in compliance calculations. This approach to oxygenate use under anti-dumping is consistent with the proposals, but the final rule clarifies the manner in which parties must demonstrate that oxygenate is in fact used.

In the SNPRM 92 and SNPRM 93, EPA proposed that the inclusion of oxygenate volume in compliance calculations by refiners and importers would be optional, except as required in the calculation of other exhaust emission products under the applicable model. These proposals did not, however, specify the manner in which the oxygenate use showing must be made. EPA believes the provisions included in the final rule dealing with the oxygenate use showing during compliance periods is necessary in order to ensure conventional gasoline emissions are accurately reported.<SUP>84

\8\4EPA proposed that any refiner or importer who elects to include oxygenate in its compliance calculations would be required to include oxygenates in its 1990 baseline as well. Under the final rule, however, refiners and importers are required to include oxygenate in

anti-dumping baselines whether or not oxygenate is included in compliance calcuations. The baseline-setting process, including the treatment of oxygenate, is discussed in preamble section VIII.

Oxygenate blenders are not required to demonstrate compliance with anti-dumping standards because the blending of oxygenate has only a positive effect on the quality of gasoline or blendstock with which oxygenate is blended with regard to the properties or emission products regulated under anti-dumping <SUP>85

\8\5Under 40 CFR 80.2(ll), an oxygenate blending facility is ``any facility (including a truck) at which oxygenate is added to gasoline or blendstock, and at which the quality or quantity of gasoline is not altered in any other manner except for the addition of deposit control additives." Under 40 CFR 80.2(mm), an oxygenate blender is ``any person who owns, leases, operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstock or gasoline used or the gasoline produced at an oxygenate blending facility."

Oxygenate blenders are regulated under the anti-dumping provisions, inter alia, to the extent the oxygenate they blend is used in the compliance calculations of the refiner or importer who produces or imports the base gasoline used by the oxygenate blender. In this situation, the oxygenate blender is required, with regard to this oxygenate blending, to maintain records and to allow EPA inspections.

Oxygenate that is blended at a refinery or import facility would be included in compliance calculations as a matter of course because the oxygen (along with all other gasoline constituents) would be reflected in the batch analyses conducted of the gasoline using samples collected before the gasoline left the refinery or import facility. The requirements that must be met in order for refiners and importers to be allowed to claim oxygenates which are blended downstream are similar to the requirements relating to reformulated gasoline blendstock for

oxygenate blending (RBOB) in the reformulated gasoline program. The thrust of these requirements is that the refiner or importer must show that the oxygenate claimed was in fact added to the refiner's or importer's gasoline. This could be shown if the refiner or importer is able to demonstrate that it blended the oxygenate while the gasoline (or gasoline blendstock) is still owned by the refiner or importer.

If the downstream blending is carried out by a person other than the refiner or importer, in order to include the oxygenate in its compliance calculations the refiner or importer must have a contract with the downstream blender which mandates procedures that are necessary for proper blending. In addition, the refiner or importer must monitor the downstream blending operation in a manner reasonably calculated to ensure the oxygenate use claimed by the refiner or importer is accurate. Such monitoring must include audits, inspections, and sampling and testing of gasoline produced by the downstream blender.

The provisions that must be included in the contract with the oxygenate blender are those which the refiner or importer believes are necessary to ensure the oxygenate claimed by the refiner or importer is in fact added. At a minimum, the contract should provide for the inspections, sampling and testing, and audits by the refiner or importer over the oxygenate blending operation, as well as any quality assurance measures the refiner or importer feels the oxygenate blender should carry out. The contract also could specify the technical manner in which oxygenate is blended, if necessary to support the refiner's or importer's oxygenate use claims.

The inspections and periodic sampling and testing oversight requirement is intended to ensure any oxygenate-use claims by a refiner or importer are supported by the actual oxygenate blending that occurs. The sampling and testing must be of the gasoline that is produced at the oxygenate blending operation, using base gasoline that was produced or imported by the refiner

or importer. If the volume percent oxygenate found through sampling and testing is inconsistent with the refiner's or importer's claimed oxygenate volume, the refiner or importer must resolve the inconsistency in order to include the oxygenate in its compliance calculations. EPA believes the sampling and testing should be unannounced, should occur at different times during the portion of the averaging period when oxygenate is blended, and that the overall frequency is dependent on the situation. The sampling and testing should increase in frequency as the oxygenate volume increases, with oxygenate blenders who are less sophisticated, or where the refiner has any reason to question the oxygenate blending operation. Inspections by refiners and importers should be calculated to determine if the oxygenate blender is complying with the procedures included in the contract with the oxygenate blender, such as quality assurance by the blender.

EPA believes that audits must occur at least annually, and more frequently if there is any reason for the refiner or importer to question the oxygenate blending operation. EPA further believes that audits must include, at a minimum, review of records that reflect the types and volumes of oxygenate purchased and used by the downstream blender to ensure they are consistent with the refiner's or importer's claims. In a case where the oxygenate blender is using base gasoline that is produced or imported by more than one refiner or importer, the audit must distinguish the oxygenate blended with the different refiner's or importer's base gasoline. In a case where the base gasoline is fungibly mixed with gasolines from other refiners or importers prior to its receipt by the downstream blender, the audit must account for the portion of the fungible mixture that is the gasoline produced by the refiner or imported by the importer. As a result of the complexities inherent in tracking gasoline through the fungible distribution system, EPA believes in most cases it will be impracticable for refiners or importers to effectively monitor downstream oxygenate blending with gasoline that is shipped fungibly, and as a result

the refiner or importer normally would be precluded from including the oxygenate in compliance calculations. In any case where the downstream oxygenate use claims by a refiner or importer are not supported by the inspections, sampling and testing, or audits, or where EPA is able to establish that the oxygenate use claims by the refiner or importer are incorrect, the refiner or importer would not be allowed to include the oxygenate in compliance calculations. If the error is discovered subsequent to the conclusion of an averaging period, moreover, the refiner or importer would be required to recalculate its compliance calculations for the averaging period ab initio without including the oxygenate, even if this recalculation results in the refiner or importer being out of compliance with the anti-dumping standards.

C. Inclusion of Sub-Octane Blendstock in Compliance Calculations

EPA has included conventional gasoline and gasoline blendstock<SUP>86 that is intended for downstream oxygenate blending in the set of products that must be included in the compliance calculations of refiners and importers.

\8\640 CFR 80.2(s) defines gasoline blending stock or component as ``any liquid compound which is blended with other liquid compounds or with lead additives to produce gasoline."

Most base gasoline that is used in downstream oxygenate blending operations meets the definition of gasoline and as a result must be included in refiner/importer compliance calculations without regard to the provisions related to blendstock.<SUP>87 Base gasoline meets the gasoline definition where the gasoline has the properties of gasoline that also is sold for use without oxygenate blending. For example, one common practice is to blend 10 vol% ethanol with 87 octane gasoline to produce 89.6 octane gasoline, and 87 octane gasoline is commonly sold for use without oxygenate blending. 87 octane base gasoline therefore meets the definition of gasoline.

\8\740 CFR 80.2(c) defines gasoline as ``any fuel sold in any State for use in motor vehicles and motor vehicle engines, and commonly or commercially known or sold as gasoline." (footnote omitted).

Most ``sub-octane" blendstock specifically designed for oxygenate blending also meets the definition of gasoline, because gasoline having similar properties is sold in certain regions of the country and at certain times of the year.<SUP>88 For example, 85 octane blendstock--a ``sub-octane" blendstock--is sometimes produced with the intention that with the addition of 10 vol% ethanol this blendstock will become 87 octane gasoline. However, because 85 octane gasoline is sold in the mountain states in the winter, 85 octane blendstock meets the definition of ``gasoline" and is not a ``blendstock" under the definition of that term even when it is blended with ethanol.

\8\8For purposes of this discussion, ``sub-octane" blendstock is blendstock that has an octane below 87.

Potentially there are ``sub-octane" blendstocks that become gasoline solely through the addition of oxygenate and that have octanes that are lower than the octane of any gasoline sold anywhere in the United States. Such a product would not meet the definition of gasoline, but would be a blendstock.

EPA nevertheless believes that the refiner or importer who produces or imports ``sub-octane" base gasoline product, rather than the oxygenate blender, should include the product in its compliance calculations for several reasons. First, the emissions performance of such products is determined primarily through its basic properties and not by the addition of oxygenate. Second, to the extent that a refiner or importer produced or imported ``sub-octane" base gasoline in 1990, thus contributing to the quality of the gasoline pool in 1990, such product should be part of that

refiner's or importer's conventional gasoline pool in 1995. Third, the refiner or importer of such product is likely to be more sophisticated than oxygenate blenders in defining the quality of conventional gasoline necessary to meet the requirements of the anti-dumping program, and in meeting the range of anti-dumping requirements that apply to refiners. Oxygenate blenders, who often are truck splash blender-distributors, are not required to meet antidumping standards (for reasons discussed above), but placing the responsibility of accounting for ``sub-octane'' base gasoline on oxygenate blenders would result in these parties becoming ``refiners'' who are subject to the full scope of anti-dumping requirements. Finally, if refiners and importers who produce or import ``suboctane'' blendstock could avoid including this product in their compliance calculations, the anti-dumping enforcement requirements would have to be expanded to include complex (and expensive) product tracking and accounting mechanisms designed to ensure product of this type ultimately is accounted for, and is included in the compliance calculations of only a single party. EPA believes, therefore, that it is appropriate for the refiners and importers of ``sub-octane'' blendstocks to include such products in their compliance calculations under the anti-dumping program.

This requirement for refiners and importers to include sub-octane ``blendstock'' in compliance calculations is consistent with, but less far-reaching than, the proposal contained in the 1992 SNPRM that refiners and importers would be required to account for all blendstock produced or imported.

D. Compliance Calculations for Blendstock That Is Blended With Gasoline

In the SNPRM 93, EPA proposed that parties who produce gasoline solely by combining different blendstocks could determine compliance on the basis of the properties and volumes of the blendstocks without performing a full analysis of the final blends. This compliance

determination approach also was intended to apply to parties who add blendstocks to finished gasoline which has been included in another party's compliance calculations. Under this proposal, refiners and importers would insert the properties and values of the blendstocks into the equations for the complex and simple model standards. EPA now believes this compliance calculation approach is appropriate only for simple model standards, but not for complex model standards because blendstocks have parameters that are outside the range of the complex model.

This approach is included in the final rule for refiners and importers subject to the simple model because a blender-refiner can calculate the volume-weighted averages of sulfur, T-90, olefins, and exhaust benzene using blendstock analyses only. For example, consider a blender-refiner who has the anti-dumping statutory baseline, which for olefins is 10.6 vol%. The simple model anti-dumping standard for olefins is no greater than 125% times 10.8, or 13.50 vol%. In this example the blender-refiner used two blendstocks during the averaging period, 10,000 gallons of light FCC naphtha which the blender-refiner sampled and tested and determined to contain 39.8 vol% olefins. The blender-refiner also used 25,000 gallons of reformate that through the blender-refiner's sampling and testing was determined to contain 1.0 vol% olefins. The blender-refiner in this example determined the annual average olefin content of its blendstock by calculating the volume-weighted average olefin content of these two blendstocks, or (10,000 * 39.8) plus (25,000 * 1.0) divided by 35,000, or 11.8 vol% olefins. Because 11.8 vol% is less than the 13.25 vol% olefin standard, the blender-refiner in this example would meet the anti-dumping olefin standard. Annual averages for the blender-refiner for sulfur, T-90, and exhaust benzene under the simple model would be calculated in a similar manner.

EPA believes that compliance with complex model standards cannot be determined using the volume-weighted properties of blendstock as described above, because such an approach would

not provide meaningful results for exhaust benzene, or toxics or NO<INF>X emissions performance. EPA has, however, included a method in the final rule for calculating compliance under the complex model in the case of blendstock that is added to gasoline whereby compliance is determined on the basis of blendstocks blended with gasoline. This results in a calculation method that is consistent with the technical limitations inherent with the complex model.

Under this calculation method, the blender-refiner determines the fuel parameters of the blendstock or blendstocks that are to be added to a base gasoline, by testing a representative sample of each blendstock. The blender-refiner then calculates the properties of the gasoline that would result if the blendstock or blendstocks were blended, in the volume-ratio used in the blending operation, with a gasoline having parameters that are equal to anti-dumping baseline applicable to the blender-refiner, except that properties measured on a weight or ppm basis, such as sulfur, must be corrected for the specific gravities of the products blended. In most cases, the anti-dumping statutory baseline would be the applicable baseline for blenderrefiners. This mathematical calculation thus models the fuel parameters of the gasoline that would result if the blendstock in question were in fact blended with gasoline having properties equal to the blenderrefiner' s baseline in the volume-ratio used in the blending operation. The emissions performance (exhaust benzene, or toxics or NO<INF>X emissions performance) of the mathematically-created gasoline is determined through the appropriate complex model, as is the emissions performance of the blender-refiner's baseline gasoline. The emissions performance effect of the blendstock is calculated by subtracting the emissions performance of the blender-refiner's baseline gasoline from the emissions performance of the mathematically-calculated gasoline. The anti-dumping standard is met if the volume-weighted emissions performance for all blendstock used in blends during the averaging period is equal to

or less than zero.

For example, consider a blender-refiner who has the anti-dumping statutory baseline, and who is subject to the complex model standards (toxics and NO<INF>X emissions performance). This blender-refiner uses two blendstocks during a certain portion of the averaging period, a light FCC naphtha and a reformate, and these blendstocks are blended at the rate of 10 vol% FCC naphtha, 25 vol% reformate, and 65 vol% base gasoline. A partial list of the properties of these blendstocks, as determined by the blender-refiner through sampling and testing, are as follows:

	FCC naphtha	Reformate	Anti-dumping statutory gasoline		
Aromatics (vol%)	13.5	31.1	28.6	Olefins (vol%)	39.8
1.0	10.8	Sulfur (ppm).....	289	10	338
Specific gravity.....		**0.753**	**0.801**	**0.742**	

The blender-refiner determines the properties of the blends that would result if these blendstocks were blended at these rates with gasoline having properties equal to the anti-dumping statutory baseline. In the case of aromatics, the calculation would be the following:

aromatics (vol%)=(13.5 x 0.10)+31.1 x 0.25)+(28.6 x 0.65)=27.72

As stated earlier, fuel properties measured on a weight percent or ppm basis would have to be adjusted for specific gravity as follows:

<GRAPHIC><TIFF>TR16FE94.000

All other parameters required for the complex model would be calculated in a similar manner

to create a list of calculated parameters except for the determination of RVP for ethanol blends. Because of the high RVP of ethanol and its non-linear blending characteristics, gasoline blends with at least 1.50% ethanol by volume should be entered into the appropriate complex model with an assumed RVP 1.0 psi greater than that of the base gasoline and other blendstocks. Below 1.50% ethanol concentration, the RVP of the base gasoline and blendstock should be unchanged for calculation purposes in the complex model. These parameters are then applied to the complex model to generate the values of the exhaust benzene, toxics and NO<INF>X emissions performance for the hypothetical calculated blend. In this example, the complex model yields a NO<INF>X emissions performance for this gasoline of 640 mg/mile. The properties of the anti-dumping statutory gasoline are then applied to the complex model to determine that this gasoline has a NO<INF>X emissions performance of 660 mg/mile. The blender-refiner in this example then subtracts the NO<INF>X emissions performance of antidumping statutory gasoline from the NO<INF>X emissions performance of the hypothetical calculated blend, to yield the NO<INF>X emissions performance effect of the blendstocks used of -20 mg/mile (640-660=-20 mg/mile).

The blender-refiner would then repeat this process for all blends produced during the averaging period where blendstock was added to base gasoline. These per-batch NO<INF>X emissions performance effects are then combined on a volume-weighted basis, and the blender-refiner would have met the NO<INF>X anti-dumping standard if this net value is equal to or less than zero. A similar analysis was performed for toxics emissions performance.

X. Provisions for Opt-in by Other Ozone Non-Attainment Areas

Section 211(k)(6) of the Act allows certain areas to opt into the reformulated gasoline (RFG) program. Thus, such areas may choose to participate in the RFG program, unlike the nine areas

with the highest ozone design values which are required to participate. The following is a list of all areas either required to be covered by the reformulated gasoline program or which have opted into the program to date:

Connecticut--Entire State

Areas Classified as Severe Ozone Nonattainment Areas

1. Fairfield County (part)

2. Litchfield County (part)

Areas Classified as Serious Ozone Nonattainment Areas

1. Fairfield County (part)

2. Hartford County

3. Litchfield County (part)

4. Middlesex County

5. New Haven County

6. New London County

7. Tolland County

8. Windham County

Delaware

Areas Classified as Severe Ozone Nonattainment Areas

1. Kent County

2. New Castle County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Sussex County

District of Columbia

Areas Classified as Serious Ozone Nonattainment Areas

1. Washington (entire area)

Kentucky

Areas Classified as Moderate Ozone Nonattainment Areas

1. Boone County

2. Bullitt County (part)

3. Campbell County

4. Jefferson County

5. Kenton County

6. Oldham County (part)

Maine

Areas Classified as Moderate Ozone Nonattainment Areas

1. Androscoggin County

2. Cumberland County

3. Kennebec County

4. Knox County

5. Lincoln County

6. Sagadahoc County

7. York County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Hancock County

2. Waldo County

Maryland

Areas Classified as Severe Ozone Nonattainment Areas

1. Anne Arundel County

2. Baltimore County

3. Carroll County

4. Cecil County

5. Harford County

6. Howard County

Areas Classified as Serious Ozone Nonattainment Areas

1. Calvert County

2. Charles County

3. Frederick County

4. Montgomery County

5. Prince Georges County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Kent County

2. Queen Annes County

Massachusetts--Entire State

Areas Classified as Serious Ozone Nonattainment Areas

1. Barnstable County

2. Berkshire County

3. Bristol County

4. Dukes County

5. Essex County

6. Franklin County

7. Hampden County

8. Hampshire County

9. Middlesex County

10. Nantucket County

11. Norfolk County

12. Plymouth County

13. Suffolk County

14. Worcester County

New Hampshire

Areas Classified as Serious Ozone Nonattainment Areas

1. Hillsborough County (part)<SUP>89

\8\9Part of Hillsborough County is classified as serious, the other part as marginal.

2. Rockingham County (part)<SUP>90

\9\0Part of Rockingham County is classified as serious, the other part as marginal.

3. Strafford County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Hillsborough County (part)

2. Merrimack County

3. Rockingham County (part)

New Jersey

Areas Classified as Severe Ozone Nonattainment Areas

1. Bergen County

2. Burlington County

3. Camden County

4. Cumberland County

5. Essex County

6. Gloucester County

7. Hudson County

8. Hunterdon County

9. Mercer County

10. Middlesex County

11. Monmouth County

12. Morris County

13. Ocean County

14. Passaic County

15. Salem County

16. Somerset County

17. Sussex County

18. Union County

Areas Classified as Moderate Ozone Nonattainment Areas

1. Atlantic County

2. Cape May County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Warren County

New York

Areas Classified as Severe Nonattainment Areas

1. Bronx County<SUP>91

\9\1The state requested time to study the boundaries and classification under Section 107(d)(4)(A)(iv). The boundaries and classification of Orange and Putnam Counties will be determined based upon evaluation of that study by EPA

2. Kings County

3. Nassau County

4. New York County

5. Queens County

6. Richmond County

7. Rockland County

8. Suffolk County

9. Westchester County

Areas Classified as Marginal Nonattainment Areas

1. Albany County

2. Dutchess County

3. Erie County

4. Essex County<SUP>92

\9\2This area is a rural transport area.

5. Greene County

6. Jefferson County

7. Montgomery County

8. Niagara County

9. Rensselaer County

10. Saratoga County

11. Schenectady County

Pennsylvania

Areas Classified as Severe Ozone Nonattainment Areas

1. Bucks County<SUP>93

\9\3These counties are already defined as ``covered areas'' and are subjected to the federal reformulated fuel program under Section 211(k)(10)(D).

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2. Chester County

3. Delaware County

4. Montgomery County

5. Philadelphia County

Areas Classified as Moderate Ozone Nonattainment Areas

1. Allegheny County

2. Armstrong County

3. Beaver County

4. Berks County

5. Butler County

6. Fayette County

7. Washington County

8. Westmoreland County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Adams County

2. Blair County

3. Cambria County

4. Carbon County

5. Columbia County

6. Cumberland County

7. Dauphin County

8. Erie County

9. Lackawanna County

10. Lancaster County

11. Lebanon County

12. Lehigh County

13. Luzerne County

14. Mercer County

15. Monroe County

16. Northampton County

17. Perry County

18. Somerset County

19. Wyoming County

20. York County

Rhode Island--Entire State

Areas Classified as Serious Ozone Nonattainment Areas

1. Bristol County

2. Kent County

3. Newport County

4. Providence County

5. Washington County

Texas--Houston/Galveston area

Area Classified As Moderate Ozone Nonattainment Area

1. Collin County

2. Dallas County

3. Denton County

4. Tarrant County

Virginia

Areas Classified as Serious Ozone Nonattainment Areas

1. Alexandria

2. Arlington County

3. Fairfax

4. Fairfax County

5. Falls Church

6. Loudoun County

7. Manassas

8. Manassas Park

9. Prince William County

10. Stafford County

Areas Classified as Moderate Ozone Nonattainment Areas

1. Charles City County

2. Chesterfield County

3. Colonial Heights

4. Hanover County

5. Henrico County

6. Hopewell

7. Richmond County

Areas Classified as Marginal Ozone Nonattainment Areas

1. Chesapeake

2. Hampton

3. James City County

4. Newport News

5. Norfolk

6. Poquoson

7. Portsmouth

8. Smyth County (part)<SUP>94

\9\4This is a rural transport area

9. Suffolk

10. Virginia Beach

11. Williamsburg

12. York County

Vermont and portions of other areas in Pennsylvania and New Hampshire have formally requested to opt-in to the reformulated gasoline program, although the designated areas in these states are categorized as unclassified/attainment. Because of statutory limitations, attainment areas will not be allowed to opt-in to the program, with a limited exception given to some areas in established ozone transport regions as authorized by section 184 of the Act. The reader is referred to the RIA for further discussion of the statutory limitations.

Other ozone nonattainment areas that are not listed herein may also opt-in to the reformulated gasoline program as permitted by section 211(k)(6), under constraints such as sufficient lead-time domestic fuel availability.

Several key issues were brought to EPA's attention in the form of comments, and EPA's response is summarized below. More detailed discussion of these opt-in issues can be found in Section IX of the Final Regulatory Impact Analysis (RIA). Several commenter inquiries pertained to opting out of the reformulated gasoline program. Once an area has opted into the reformulated gasoline program, the issue arises whether it may, at a later date, decide to opt out of the program. While EPA is currently considering opt-out provisions, section 211(k) does not give EPA the authority to develop an opt-out procedure. Thus, EPA is not including any opt-out provisions in this rulemaking, but may pursue a separate action in the future that would allow states to opt-out of the RFG program, provided sufficient notice is given. In its April 1993 NPRM, EPA requested comment on whether to permit areas to opt-in to only Phase I (1995-99)

of the RFG program, and not require them to receive Phase II RFG starting in 2000. Several commenters supported allowing states to opt-in to Phase I only, but cited a number of concerns regarding the logistics of producing and distributing Phase I and Phase II reformulated gasolines concurrently. Because of these potential fuel proliferation problems (i.e., many types of fuels available or required in the marketplace at one time), as well as enforcement problems and weak statutory authority (which is discussed further in the RIA), EPA will not allow nonattainment areas to opt-in to only Phase I. Opt-in areas must be willing to commit to the change to Phase II RFG in the year 2000. As discussed above, EPA may undertake a separate action which would give opted-in areas the opportunity to opt-out of the RFG program. In this case if a state desired to maintain the Phase I RFG standards beyond the year 1999, the state could promulgate its own regulations requiring this. Such a program would have to be enforced by the state, however, and would also have to be approved by EPA as part of the State Implementation Plan review process.

As discussed briefly above, some of the comments received by EPA included a request that attainment areas be permitted to opt-in to the RFG program. The Act does not allow participation by attainment areas into the reformulated gasoline program. EPA also received suggestions that it modify the opt-in application procedure to allow more lead time for refiners. EPA feels that its existing application procedure for opt-in and its lead time provisions are adequate, and do not require revision. Finally, one commenter suggested that opt-in should be allowed only after a nonattainment area has adopted Stage II controls and enhanced inspection and maintenance. EPA favors giving eligible areas freedom to opt-in to the RFG provisions, and will not require that areas first implement Stage II controls and enhanced inspection and maintenance. The NO<INF>X standard for Phase II reformulated gasoline (see Section VI above) will be required in all current and future opt-in areas. As discussed in the Section VI of

the RIA, NO<INF>X control is believed to be necessary to ensure that all opt-in areas realize a reduction in ozone levels. Since future opt-in areas are likely to be similar to some current reformulated gasoline areas (including current opt-in) in terms of geographical location, meteorological conditions, and other factors affecting ozone formation, it is reasonable to assume that future opt-in areas will similarly benefit from NO<INF>X control. Furthermore, as discussed in Section VI of the RIA, applying the NO<INF>X standard to the same areas as the reformulated gasoline standard is considered to be the most appropriate and cost effective manner in which to achieve ozone benefits through fuel reformulation. Since refiners will already be producing reformulated gasoline controlling both VOC and NO<INF>X, the addition of new areas to the reformulated gasoline program will only require an increase in the volume of RFG produced and will not pose any leadtime problems.

XI. Federal Preemption

Whenever the federal government regulates in an area, the issue of preemption of State action in the same area is raised. The regulations proposed here will affect virtually all of the gasoline sold in the United States. As opposed to commodities that are produced and sold in the same area of the country, gasoline produced in one area is often distributed to other areas. The national scope of gasoline production and distribution suggests that federal rules should preempt State action to avoid an inefficient patchwork of potentially conflicting regulations. Indeed, Congress provided in the 1977 Amendments to the Clean Air Act that federal fuels regulations preempt non-identical State controls except under certain specified circumstances (see, section 211(c)(4) of the Clean Air Act). EPA believes that the same approach to federal preemption is desirable for the reformulated gasoline and anti-dumping programs. EPA, therefore, is issuing today's final rule under the authority of sections 211 (k) and (c), and promulgate under section 211(c)(4) that

dissimilar State controls be preempted unless either of the exceptions to federal preemption specified by section 211(c)(4) applies. Those exceptions are sections 211(c)(4) (B) and (C).

As raised in some of comments received by the Agency, the Regulatory Negotiation agreement was not intended to modify the provisions of section 211(c)(4)(B). Under this provision, once the State of California has received a waiver under section 209(b) of the Clean Air Act, it has the ability to regulate fuels and fuel additives without the need for a waiver under section 211 of the Clean Air Act. In accordance with the intent of Congress in enacting sections 209(b) and 211(c)(4)(B) of the Clean Air Act, California has used, and EPA understands will continue to use, these provisions to design a program to meet its unique needs.

EPA believes that the limited federal preemption promulgated here appropriately balances the utility and efficacy of uniform national rules with States' needs to address their unique pollution problems.

XII. Environmental and Economic Impacts

A. Environmental Impact

Section 211(k) of the Clean Air Act indicates that the primary purposes of reformulated gasoline are to reduce ozone-forming VOC emissions during the high ozone season and emissions of toxic air pollutants during the entire year. Reductions in VOCs are environmentally significant because of the associated reductions in ozone formation and in secondary formation of particulate matter, with the associated improvements in human health and welfare. Reductions in emissions of toxic air pollutants are environmentally important because they carry significant benefits for human health and welfare primarily by reducing the number of cancer cases each year.

1. Phase I Reformulated Gasoline

Beginning in 1995, reformulated gasoline certified during Phase I of the program must achieve a nominal emissions reduction of 15 percent for VOCs, 16.5 percent for air toxics on average, and NO<INF>X emissions are not allowed to increase beyond levels evident in baseline gasoline. EPA expects simple model fuels to meet these Clean Air Act standards. As discussed in the section IV, high ozone season fuels certified using the complex model during Phase I of the reformulated gasoline program in VOC control region I must provide a VOC emission reduction from baseline levels of 36.6 percent when complying on average and 35.1 percent when complying on a per-gallon basis. Similarly, high ozone season fuels certified using the complex model during Phase I in VOC Control Region 2 must provide a VOC emission reduction from baseline levels of 17.1 percent when complying on average and 15.6 percent when complying on a per-gallon basis. The Agency projects that VOC emission reductions for Phase I of reformulated gasoline will be approximately 90-140 thousand tons during the summer period for the ``nine cities'' and the other areas that have currently opted into the program. Assuming a one year exposure to both the baseline and controlled level of toxic emissions, the number of cancer incidences is estimated to decrease by approximately 16 (assuming enhanced I/M in place) or 24 (assuming basic I/M in place) incidences per each year that the program is in place, in the nine cities and the opt-in areas (refer to section V of the RIA for an explanation and methodology of these numbers). These reductions will naturally increase to the extent that other areas opt into the program.

2. Phase II Reformulated Gasoline

Beginning in the year 2000, reformulated gasoline certified on average must meet a VOC emission reduction standard of 27.4 percent in VOC control region 2 and 29.0 percent in VOC control region 1, as well as a toxic emission reduction standard on average of 21.5 percent. In

addition, a NO<INF>X emission reduction standard of 6.8 percent on average is required for Phase II of reformulated gasoline. The Agency projects that under Phase II, there will be 3-4 fewer incidences of cancer per year, summertime VOC emissions will be reduced by approximately 42,000 tons, and summertime NO<INF>X emissions will be reduced by approximately 22,000 tons in the nine cities and other areas currently opted into the RFG program (incremental to Phase I).

B. Economic Impact

1. Phase I Reformulated Gasoline

Due to the required addition of oxygenates to gasoline and to refinery processing changes that will be needed to reduce fuel benzene and RVP levels and to meet the VOC, NO<INF>X and toxic emission standards, the cost of producing reformulated gasoline certified under Phase I, is expected to increase by approximately 3-5 cents per gallon in 1995 above the cost of conventional gasoline. We project annual costs of $700 to $940 million for both those areas mandated to be part of the program and those that have chosen to opt-in. Additionally, there will be costs due to testing, enforcement and recordkeeping.

2. Phase II Reformulated Gasoline

As discussed in Section VI, The overall cost of the Phase II reformulated gasoline VOC standards and NO<INF>X standards for Phase II RFG is approximately 1.2 cents per gallon (incremental to Phase I RFG) during the VOC control period when the more stringent VOC and NO<INF>X standards are in effect. There should be no additional cost during the non-VOC control period, since only the toxics standard changes, and there is not expected to be a cost for year-round toxics control above that required for Phase I RFG. In addition, EPA does not expect nonproduction related costs, such as distribution costs, recordkeeping and reporting costs, etc., to

increase significantly relative to Phase I reformulated gasoline.

The environmental and economic impacts of the reformulated gasoline program are described in more detail in the Section V and VI of the Final Regulatory Impact Analysis.

XIII. Public Participation

During the reformulated gasoline rulemaking, EPA encouraged and welcomed full public participation in arriving at its final decisions and developing its final rule. EPA met with representatives of the automobile, petroleum, and oxygenate industries as well as environmental and citizen organizations. Their concerns and ideas were considered in the development in this final rule for reformulated gasoline. Public workshops to discuss and resolve a variety of issues on several aspects of the reformulated gasoline program were sponsored by the Agency.

Additionally, EPA solicited, reviewed, and considered written comments on all aspects of its three previous proposals and Phase II correction notice. All comments received by the Agency are located in the EPA Air Docket, Dockets A-91-02 and A-92-12 (See ADDRESSES). As mentioned above, all significant comments were used to revise the previous proposals and/or are responded to in the Regulatory Impact Analysis contained in Docket A-91-02.

XIV. Compliance With the Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 requires federal agencies to examine the effects of the reformulated gasoline regulation and to identify significant adverse impacts of federal regulations on a substantial number of small entities. Because the RFA does not provide concrete definitions of ``small entity,'' ``significant impact,'' or ``substantial number,'' EPA has established guidelines setting the standards to be used in evaluating impacts on small businesses<SUP>95. For purposes of the reformulated gasoline regulations, a small entity is any business which is independently owned and operated and not dominant in its field as defined by SBA regulations

under section 3 of the Small Business Act.

\9\5U.S. Environmental Protection Agency, Memorandum to Assistant Administrators, ``Compliance With the Regulatory Flexibility Act," EPA Office of Policy, Planning, and Evaluation, 1984. In addition, U.S. Environmental Protection Agency, Memorandum to Assistant Administrators, ``Agency's Revised Guidelines for Implementing the Regulatory Flexibility Act," Office of Policy, Planning, and Evaluation, 1992.

The Agency has found that the reformulated gasoline and antidumping regulations may possibly have some economic impact on a substantial number of small refiners. However, these regulations may not significantly affect gasoline blenders, terminal operators, service stations and ethanol blenders under the same EPA criteria. Small business entities are not required by the Clean Air Act to manufacture reformulated gasoline. Since most small refiners are located in the mountain states or in California, which has its own (more stringent) reformulated gasoline program, the vast majority of small refiners are unaffected by the federal reformulated gasoline requirements. Furthermore, all businesses (both large and small) maintain the option to produce conventional gasoline to be sold in areas not obligated by the Act to receive reformulated gasoline or those areas which have not chosen to opt into the program.

All refiners will be affected by the anti-dumping requirements, which are less stringent than those for the reformulated gasoline portion of the program. The anti-dumping regulations affecting conventional gasoline are not expected to disproportionately impact small refiners of conventional gasoline. In addition, all refiners have the option to use either the simple or complex model during the first years of the reformulated gasoline program. Refiners have greater flexibility under the complex model than under the simple model (which focuses primarily on volatility control) in choosing the least-cost method of compliance. The

component of the reformulated gasoline program most likely to unfavorably impact small entities is the fundamental necessity that reformulated gasoline meet more stringent emission standards and thus processing requirements. The Agency is unaware of any alternative options which might relieve the regulatory burden on small entities while simultaneously maintaining the program benefits required by the statute. Exempting small refiners from the reformulated gasoline regulations would result in the failure of meeting CAA performance standards, which is illegal. All reformulated gasoline is required to meet the same performance and compositional standards. Additionally, enforcement of a reformulated gasoline program (with exemptions or less stringent standards for some fuel producers), in-use, would be virtually impossible to enforce due to the inherent nature of the fungible gasoline distribution system in existence. Despite the inability to exempt small businesses from the requirements of the reformulated gasoline program, EPA has made accommodations where possible. One example of the versatility embedded in the reformulated gasoline regulations, by EPA, is the flexibility available to all refiners, both small and large, to choose to have one or more individual refinery conventional gasoline compliance baselines and one or more ``refiner'' baselines (i.e., more than one grouping of two or more refineries to form a compliance baseline). Another example of the flexibility of the regulations is the ability to produce reformulated gasoline on a per gallon or averaging basis. Also, certain small refiners who produced JP-4 jet fuel in 1990 may be able to adjust their baselines so as to reduce the compliance burden. It is worthy to note that although EPA has received several comments which claim that the reformulated gasoline regulations will result in closing the small business entities affected by this rule, convincing evidence supporting this claim has not been submitted.

In accordance with section 604 of the Regulatory Flexibility Act, EPA has prepared a

regulatory flexibility analysis which includes a comprehensive justification for the determination briefly reviewed above, as well as a summary and assessment of the issues raised by public comments on the Initial Regulatory Flexibility Analysis. The complete analysis is contained within the Regulatory Impact Analysis which has been placed in the docket for this rulemaking: EPA Air Docket A-92-12.

XV. Statutory Authority

The statutory authority for the rules finalized today is granted to EPA by sections 114, 211 (c) and (k) and 301 of the Clean Air Act, as amended, 42 U.S.C. 7414, 7545 (c) and (k), and 7601.

XVI. Administrative Designation and Regulatory Analysis

Pursuant to Executive Order 12866, (58 FR 51735 (October 4, 1993)) the Agency must determine whether the regulatory action is ``significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Order defines ``significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communitites;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a ``significant regulatory action'' because the Administrator has determined that reformulated

gasoline will cost well in excess of $100 million per year and therefore should be classified as a significant regulatory action. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record: EPA Air Docket A-92-12.

A Regulatory Impact Analysis (RIA) for the reformulated gasoline program has been prepared and placed in Public Docket No. A-92-12 to accompany this EPA notice of final rulemaking. A draft version of the Regulatory Impact Analysis was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12866. Written comments from OMB and EPA response to those comments have also been placed in the public docket for this rulemaking. EPA has made subsequent updates and revisions to the draft version pertinent to the use of the simple model. A final version of the analysis is available in the docket cited above.

XVII. Compliance With the Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An Information Collection Request document has been prepared by EPA (ICR No.1591.03) and a copy may be obtained from Sandy Farmer, Information Policy Branch; EPA, 401 M Street, SW. (Mail Code 2136); Washington, DC 20460 or by calling (202) 260-2740. These requirements are not effective until OMB approves them and a technical amendment to that effect is published in the Federal Register. This collection of information has an estimated reporting burden averaging 8 hours per response and an estimated annual recordkeeping burden averaging 38 hours per respondent. These estimates include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch; EPA; 401 M St., SW. (Mail Code 2136); Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked ``Attention: Desk Officer for EPA."

XVIII. Notice Regarding Registration of Reformulated Gasolines

EPA is in the process of establishing new requirements for the registration of motor vehicle fuels and fuel additives (F/FAs) as authorized by sections 211(b) and 211(e) of the Clean Air Act (CAA).<SUP>96 A proposal was published on April 15, 1992 (57 FR 13168). Pursuant to court order, EPA is scheduled to issue the final rule on or before April 29, 1994. The new registration regulations would supplement existing requirements and would apply to all F/FAs designated for registration, including reformulated gasoline and oxygenated gasolines. This new rule would require manufacturers of designated F/FAs to conduct certain tests and submit information regarding the composition and the potential health and welfare effects of the emissions produced by such F/FAs. Consistent with statutory requirements, for products registered prior to the promulgation of the F/FA final rule the proposal would allow a period of three years for the submission of certain data required by the rule. Under this proposal, manufacturers of designated F/FAs not registered prior to the promulgation of the F/FA final rule would be required to submit the requisite information prior to registration. This would mean that products not registered at the time of promulgation of the final F/FA testing rule would not be allowed to be registered and sold until EPA receives the requisite health effects information. In view of this proposed provision, EPA is advising manufacturers of reformulated gasoline and oxygenated gasolines to promptly register their products (or update their current gasoline registrations) so they can enter

the marketplace and make use of the three-year time window allowed by the statute to conduct the required tests. The purpose of this section is to provide some guidance to fuel producers on the registration process.

\9\6Under section 211(a) registration of designated fuels and fuel additives is required as a precondition to introduction into the marketplace.

To make the registration process more flexible and convenient, current registration procedures allow a fuel producer to include in the original registration a list of additives that might be used in the marketed fuel, along with the applicable range of concentration-in-use for each alternative. Manufacturers are also allowed to revise existing fuel registrations to accommodate expected changes in their formulations. These provisions allow fuel producers to respond quickly to fluctuations in price, availability, and other market or technical factors when they formulate their fuel products. Consistent with this current practice, EPA will permit fuel producers to register their oxygenated gasoline formulations (including reformulated gasoline) by simply revising their existing gasoline registrations to include the pertinent oxygenating compound(s). Fuel producers who are uncertain about their future fuel formulations could potentially list an unlimited number of oxygenates which they might, under some conceivable circumstances, blend into gasoline. However, EPA would generally advise against the strategy of including every possible alternative oxygenate. The fact that, for the sake of convenience, registrations are permitted to be modified to cover oxygenated gasolines does not mean that all potential formulations which fit under this broad compositional umbrella will necessarily be considered equivalent to a single fuel product. In fact, the F/FA final rule is expected to consider each gasoline/oxygenate blend as a different formulation. Thus, fuel producers would be responsible for the testing of each gasoline/oxygenate blend covered by the respective fuel registration.

Furthermore, oxygenated compounds that are listed but not tested within the allotted time period (i.e., three years) could not be used by the manufacturer. Thus, in determining which oxygenate compounds to include in the registration, each producer should carefully consider the tradeoff between the additional flexibility which a comprehensive list of potential oxygenates might provide and the additional testing responsibility which might result. For more information about registration procedures, please contact the registration office at (202) 233-9755. For information on the testing requirements of the F/FA rule contact Ines Figueroa at (313) 668-4575.

List of Subjects in 40 CFR Part 80

Environmental protection, Fuel additives, Gasoline, Incorporation by reference, Motor vehicle pollution, Penalties, Reporting and recordkeeping requirements.

Dated: December 15, 1993.

Carol M. Browner,

Administrator.

For the reasons set forth in the preamble, part 80 of title 40 of the Code of Federal Regulations is amended as follows:

PART 80--REGULATION OF FUELS AND FUEL ADDITIVES

1. The authority citation for part 80 continues to read as follows:

Authority: Sections 114, 211 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7414, 7545, and 7601(a)).

2. Section 80.2 is amended by adding paragraphs (ee), (ff), (gg), (hh), (ii), (jj), (kk), (ll), (mm), and (nn) to read as follows:

Sec. 80.2 Definitions.

* * * *

(ee) Reformulated gasoline means any gasoline whose formulation has been certified under Sec. 80.40, which meets each of the standards and requirements prescribed under Sec. 80.41, and which contains less than the maximum concentration of the marker specified in Sec. 80.82 that is allowed for reformulated gasoline under Sec. 80.82. (ff) Conventional gasoline means any gasoline which has not been certified under Sec. 80.40.

(gg) Batch of reformulated gasoline means a quantity of reformulated gasoline which is homogeneous with regard to those properties which are specified for reformulated gasoline certification. (hh) Covered area means each of the geographic areas specified in Sec. 80.70 in which only reformulated gasoline may be sold or dispensed to ultimate consumers.

(ii) Reformulated gasoline credit means the unit of measure for the paper transfer of oxygen or benzene content resulting from reformulated gasoline which contains more than 2.1 weight percent of oxygen or less than 0.95 volume percent benzene.

(jj) Oxygenate means any substance which, when added to gasoline, increases the oxygen content of that gasoline. Lawful use of any of the substances or any combination of these substances requires that they be ``substantially similar" under section 211(f)(1) of the Clean Air Act, or be permitted under a waiver granted by the Administrator under the authority of section 211(f)(4) of the Clean Air Act. (kk) Reformulated gasoline blendstock for oxygenate blending, or RBOB means a petroleum product which, when blended with a specified type and percentage of oxygenate, meets the definition of reformulated gasoline, and to which the specified type and percentage of oxygenate is added other than by the refiner or importer of the RBOB at the refinery or import facility where the RBOB is produced or imported. (ll) Oxygenate blending facility means any

facility (including a truck) at which oxygenate is added to gasoline or blendstock, and at which the quality or quantity of gasoline is not altered in any other manner except for the addition of deposit control additives. (mm) Oxygenate blender means any person who owns, leases, operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstock or gasoline used or the gasoline produced at an oxygenate blending facility.

(nn) Oxygenated fuels program reformulated gasoline, or OPRG means reformulated gasoline which is intended for use in an oxygenated fuels program control area, as defined at paragraph (pp) of this section, during an oxygenated fuels program control period, as defined at paragraph (qq) of this section.

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● New subpart D, consisting of Secs. 80.40 through 80.89, subpart E, consisting of Secs. 80.90 through 80.124, and subpart F, consisting of Secs. 80.125 through 80.135, are added to read as follows:

Subpart D--Reformulated Gasoline

Sec.

80.48 Augmentation of the complex emission model by vehicle testing.

80.49 Fuels to be used in augmenting the complex emission model through vehicle testing.

80.50 General test procedure requirements for augmentation of the emission models.

80.51 Vehicle test procedures.

80.52 Vehicle preconditioning.

80.53-80.54 [Reserved]

80.55 Measurement methods for benzene and 1,3-butadiene 80.56 Measurement methods for formaldehyde and acetaldehyde. 80.57-80.58 [Reserved]

80.59 General test fleet requirements for vehicle testing. 80.60 Test fleet requirements for exhaust emission testing. 80.61 [Reserved]

80.62 Vehicle test procedures to place vehicles in emitter group sub-fleets.

80.63-80.64 [Reserved]

80.65 General requirements for refiners, importers, and oxygenate blenders.

80.66 Calculation of reformulated gasoline properties. 80.67 Compliance on average.

80.68 Compliance surveys.

80.69 Requirements for downstream oxygenate blending. 80.70 Covered areas.

80.71 Descriptions of VOC-control regions. 80.72 [Reserved]

80.73 Inability to produce conforming gasoline in extraordinary circumstances.

80.74 Record keeping requirements.

80.75 Reporting requirements.

80.76 Registration of refiners, importers or oxygenate blender. 80.77 Product transfer documentation. 80.78 Controls and prohibitions on reformulated gasoline. 80.79 Liability for violations of the prohibited activities. 80.80 Penalties.

80.81 Enforcement exemptions for California gasoline. 80.82 Conventional gasoline marker. [Reserved] 80.83-80.89 [Reserved]

Subpart E--Anti-Dumping

80.90 Conventional gasoline baseline emissions determination. 80.91 Individual baseline determination. 80.92 Baseline auditor requirements.

80.93 Individual baseline submission and approval. 80.94-80.100 [Reserved]

80.101 Standards applicable to refiners and importers. 80.102 Controls applicable to blendstocks. 80.103 Registration of refiners and importers. 80.104 Record keeping requirements.

80.105 Reporting requirements.

80.106 Product transfer documents.

80.107-80.124 [Reserved]

Subpart F--Attest Engagements

80.125 Attest engagements.

80.126 Definitions.

80.127 Sample size guidelines.

80.128 Agreed upon procedures for refiners and importers. 80.129 Agreed upon procedures for downstream oxygenate blenders. 80.130 Agreed upon procedures reports. 80.131-80.135 [Reserved]

Subpart D--Reformulated Gasoline

Sec. 80.40 Fuel certification procedures.

(a) Gasoline that complies with one of the standards specified in Sec. 80.41 (a) through (f) that is relevant for the gasoline, and that meets all other relevant requirements prescribed under Sec. 80.41, shall be deemed certified.

(b) Any refiner or importer may, with regard to a specific fuel formulation, request from the Administrator a certification that the formulation meets one of the standards specified in Sec. 80.41 (a) through (f).

Sec. 80.41 Standards and requirements for compliance.

(a) Simple model per-gallon standards. The ``simple model" standards for compliance when achieved on a per-gallon basis are as follows:

Simple Model Per-Gallon Standards Reid vapor pressure (in pounds per square inch):

Gasoline designated for VOC-Control Region 1..... <ls-thne 7.2

Gasoline designated for VOC-Control Region 2..... <ls-thne 8.1

Oxygen content (percent, by weight)..... <gr-thne 2.0

Toxic air pollutants emissions reduction (percent)..... <gr-thne 15.0

Benzene (percent, by volume)..... <ls-thne 1.00

(b) Simple model averaged standards. The ``simple model" standards when achieved on average are as follows:

Simple Model Averaged Standards Reid vapor pressure (in pounds per square inch): Gasoline designated for VOC-Control Region 1:

Standard..... <ls-thne 7.1

Per-Gallon Maximum..... <ls-thne

7.4

Gasoline designated for VOC-Control Region 2:

Standard..... <ls-thne

8.0

Per-Gallon Maximum..... <ls-thne

8.3 Oxygen

content (percent, by weight):

Standard..... <gr-thne

2.1

Per-Gallon Minimum..... <gr-thne

1.5

Toxic air pollutants emissions reduction (percent)..... <gr-thne

16.5 Benzene

(percent, by volume):

Standard..... <ls-thne

0.95

Per-Gallon Maximum..... <ls-thne

1.30

(c) Phase I complex model per gallon standards. The Phase I ``complex model" standards for compliance when achieved on a pergallon basis are as follows:

Phase I--Complex Model Per-Gallon Standards

VOC emissions performance reduction (percent):

Gasoline designated for VOC-Control Region 1..... <gr-thne

35.1

Gasoline designated for VOC-Control Region 2..... <gr-thne

15.6

Toxic air pollutants emissions performance reduction (percent) <gr-thne

15.0

NO<INF>X emissions performance reduction (percent)..... <gr-thne

0.0

Oxygen content (percent, by weight)..... <gr-thne

2.0

Benzene (percent, by volume)..... <ls-thne

1.00

(d) Phase I complex model averaged standards. The Phase I ``complex model" standards for compliance when achieved on average are as follows:

Phase I--Complex Model Averaged Standards

VOC emissions performance reduction (percent):

Gasoline designated for VOC-Control Region 1:

Standard..... <gr-thne

36.6

Per-Gallon Minimum..... <ls-thne

32.6

Gasoline designated for VOC-Control Region 2:

Standard..... <gr-thne

17.1

Per-Gallon Minimum..... <gr-thne

13.1 Toxics air pollutants emissions performance reduction (percent)..... <gr-thne

16.5

NO<INF>X emissions performance reduction (percent):

Standard..... <gr-thne

1.5

Per-Gallon Minimum..... <ls-thne

-2.5 Oxygen

content (percent, by weight):

Standard..... <gr-thne

2.1

Per-Gallon Minimum..... <gr-thne

1.5 Benzene

(percent, by volume):

Standard..... <ls-thne

0.95

Per-Gallon Maximum..... <ls-thne

1.30

(e) Phase II complex model per-gallon standards. The Phase II ``complex model" standards for compliance when achieved on a pergallon basis are as follows:

Phase II--Complex Model Per-Gallon Standards

VOC emissions performance reduction (percent):

Gasoline designated for VOC-Control Region 1 <gr-thne

27.5

Gasoline designated for VOC-Control Region 2 <gr-thne

25.9

Toxic air pollutants emissions performance reduction (percent) <gr-thne

20.0

NO<INF>X emissions performance reduction (percent):

Gasoline designated as VOC-controlled..... <gr-thne

5.5

Gasoline not designated as VOC-controlled..... <gr-thne

0.0

Oxygen content (percent, by weight)..... <gr-thne

2.0

Benzene (percent, by volume)..... <ls-thne

1.00

(f) Phase II complex model averaged standards. The Phase II ``complex model" standards for compliance when achieved on average are as follows:

Phase II--Complex Model Averaged Standards

VOC emissions performance reduction (percent):

Gasoline designated for VOC-Control Region 1:

Standard..... <gr-thne

29.0

Per-Gallon Minimum..... <gr-thne

25.0

Gasoline designated for VOC-Control Region 2:

Standard..... <gr-thne

27.4

Per-Gallon Minimum..... <gr-thne

23.4 Toxics

air pollutants emissions performance reduction

(percent)..... <gr-thne

21.5

NO<INF>X emissions performance reduction (percent):

Gasoline designated as VOC-controlled:

Standard..... <gr-thne

6.8

Per-Gallon Minimum..... <gr-thne

3.0

Gasoline not designated as VOC-controlled:

Standard..... <gr-thne

1.5

Per-Gallon Minimum..... <gr-thne

-2.5 Oxygen

content (percent, by weight):

Standard..... <gr-thne

2.1

Per-Gallon Minimum..... <gr-thne

1.5 Benzene

(percent, by volume):

Standard..... <ls-thne

0.95

Per-Gallon Maximum..... <ls-thne

1.30

(g) Oxygen maximum standard. The per-gallon standards for maximum oxygen content, which apply to reformulated gasoline subject to the simple model per-gallon or average standards, are as follows. (1) For reformulated gasoline designated as VOC-controlled: (i) The standard shall be 2.7% by weight; except that (ii)(A) The standard shall be 3.5% by weight within the boundaries of any state if the state notifies the Administrator it wishes this different standard to apply; provided that (B) There have been no occasions within the three

preceding years when the ozone ambient air quality standard was exceeded within any covered area within the state.

(2) For reformulated gasoline not designated as VOC-controlled: (i) The standard shall be 3.5% by weight; except that (ii) In the case of any state that has notified the Administrator that the use of an oxygenate will interfere with attainment or maintenance of an ambient air quality standard or will contribute to an air quality problem, the standard shall be 2.7% by weight within the boundaries of that state.

(h) Additional standard requirements. In addition to the standards specified in paragraphs (a) through (g) of this section, the following standards apply for all reformulated gasoline: (1) The standard for heavy metals, including lead or manganese, on a per-gallon basis, is that reformulated gasoline may contain no heavy metals. The Administrator may waive this prohibition for a heavy metal (other than lead) if the Administrator determines that addition of the heavy metal to the gasoline will not increase, on an aggregate mass or cancer-risk basis, toxic air pollutant emissions from motor vehicles. (2) In the case of any refinery or importer subject to the simple model standards:

(i) The annual average levels for sulfur, T-90, and olefins cannot exceed that refinery's or importer's 1990 baseline levels for each of these parameters; and

(ii) The 1990 baseline levels and the annual averages for these parameters shall be established using the methodology set forth in Secs. 80.91 through 80.92; and

(iii) In the case of a refiner that operates more than one refinery, the standards specified under this paragraph (h)(2) shall be met using the refinery grouping selected by the refiner under Sec. 80.101(g).

(i) Use of simple and complex models. (1) During each calendar year 1995 through 1997, any refinery or importer shall be subject to either the simple model standards specified in paragraphs

(a) and (b) of this section, or the Phase I complex model standards specified in paragraphs (c) and (d) of this section, at the option of the refiner or importer, provided that:

(i) No refinery or importer may be subject to a combination of simple and complex standards during any calendar year; and (ii) Any refiner or importer that elects to achieve compliance with the anti-dumping requirements using the: (A) Simple model shall meet the requirements of this Subpart D using the simple model standards; or

(B) Complex model or optional complex model shall meet the requirements of this Subpart D using the complex model standards. (2) During the period January 1, 1998 through December 31, 1999, any refiner or importer shall be subject to the Phase I complex model standards specified in paragraphs (c) and (d) of this section. (3) Beginning on January 1, 2000, any refiner or importer shall be subject to the Phase II complex model standards specified in paragraphs (e) and (f) of this section.

(j) Complex model early use. Before January 1, 1998, the VOC, toxics, and NO<INF>X emissions performance standards for any refinery or importer subject to the Phase I complex model standards shall be determined by evaluating all of the following parameter levels in the Phase I complex model (specified in Sec. 80.45) at one time: (1) The simple model values for benzene, RVP, and oxygen specified in Sec. 80.41 (a) or (b), as applicable; (2) The aromatics value which, together with the values for benzene, RVP, and oxygen determined under paragraph (j)(1)(i) of this section, meets the simple model toxics requirement specified in Sec. 80.41 (a) or (b), as applicable;

(3) The refinery's or importer's individual baseline values for sulfur, E-300, and olefins, as established under Sec. 80.91; and (4) The appropriate seasonal value of E-200 specified in Sec. 80.45(b)(2).

(k) Effect of VOC survey failure. (1) On each occasion during 1995 or 1996 that a covered area fails a simple model VOC emissions reduction survey conducted pursuant to Sec. 80.68, the RVP requirements for that covered area beginning in the year following the failure shall be adjusted to be more stringent as follows: (i) The required average RVP level shall be decreased by an additional 0.1 psi; and

(ii) The maximum RVP level for each gallon of averaged gasoline shall be decreased by an additional 0.1 psi. (2) On each occasion that a covered area fails a complex model VOC emissions reduction survey conducted pursuant to Sec. 80.68, or fails a simple model VOC emissions reduction survey conducted pursuant to Sec. 80.68 during 1997, the VOC emissions performance standard for that covered area beginning in the year following the failure shall be adjusted to be more stringent as follows: (i) The required average VOC emissions reduction shall be increased by an additional 1.0%; and

(ii) The minimum VOC emissions reduction, for each gallon of averaged gasoline, shall be increased by an additional 1.0%. (3) In the event that a covered area for which required VOC emissions reductions have been made more stringent passes all VOC emissions reduction surveys in two consecutive years, the averaging standards VOC emissions reduction for that covered area beginning in the year following the second year of passed survey series shall be made less stringent as follows:

(i) The required average VOC emissions reduction shall be decreased by 1.0%; and

(ii) The minimum VOC emissions reduction shall be decreased by 1.0%.

(4) In the event that a covered area for which the required VOC emissions reductions have been made less stringent fails a subsequent VOC emissions reduction survey:

(i) The required average VOC emission reductions for that covered area beginning in the year

following this subsequent failure shall be made more stringent by increasing the required average and the minimum VOC emissions reduction by 1.0%; and

(ii) The required VOC emission reductions for that covered area thereafter shall not be made less stringent regardless of the results of subsequent VOC emissions reduction surveys. (l) Effect of toxics survey failure. (1) On each occasion during 1995 or 1996 that a covered area fails a simple model toxics emissions reduction survey series, conducted pursuant to Sec. 80.68, the simple model toxics emissions reduction requirement for that covered area beginning in the year following the year of the failure is made more stringent by increasing the average toxics emissions reduction by an additional 1.0%.

(2) On each occasion that a covered area fails a complex model toxics emissions reduction survey series, conducted pursuant to Sec. 80.68, or fails a simple model toxics emissions reduction survey series conducted pursuant to Sec. 80.68 during 1997, the complex model toxics emissions reduction requirement for that covered area beginning in the year following the year of the failure is made more stringent by increasing the average toxics emissions reduction by an additional 1.0%.

(3) In the event that a covered area for which the toxics emissions standard has been made more stringent passes all toxics emissions survey series in two consecutive years, the averaging standard for toxics emissions reductions for that covered area beginning in the year following the second year of passed survey series shall be made less stringent by decreasing the average toxics emissions reduction by 1.0%. (4) In the event that a covered area for which the toxics emissions reduction standard has been made less stringent fails a subsequent toxics emissions reduction survey series: (i) The standard for toxics emissions reduction for that covered area beginning in the year following this subsequent failure shall be made more stringent by

increasing the average toxics emissions reduction by 1.0%; and

(ii) The standard for toxics emissions reduction for that covered area thereafter shall not be made less stringent regardless of the results of subsequent toxics emissions reduction surveys.

(m) Effect of NO<INF>X survey failure. (1) On each occasion that a covered area fails a NO<INF>X emissions reduction survey conducted pursuant to Sec. 80.68, except in the case Phase II complex model NO<INF>X standards for VOC-controlled gasoline, the NO<INF>X emissions reduction requirements for that covered area beginning in the year following the failure shall be adjusted to be more stringent as follows:

(i) The required average NO<INF>X emissions reduction shall be increased by an additional 1.0%; and

(ii) The minimum NO<INF>X emissions reduction, for each gallon of averaged gasoline, shall be increased by an additional 1.0%. (2) In the event that a covered area for which required NO<INF>X emissions reductions have been made more stringent passes all NO<INF>X emissions reduction surveys in two consecutive years, the averaging standards for NO<INF>X emissions reduction for that covered area beginning in the year following the second year of passed survey series shall be made less stringent as follows: (i) The required average NO<INF>X emissions reduction shall be decreased by 1.0%; and

(ii) The minimum NO<INF>X emissions reduction shall be decreased by 1.0%.

(3) In the event that a covered area for which the required NO<INF>X emissions reductions have been made less stringent fails a subsequent NO<INF>X emissions reduction survey: (i) The required average NO<INF>X emission reductions for that covered area beginning in the year following this subsequent failure shall be made more stringent by increasing the required average and the minimum NO<INF>X emissions reduction by 1.0%; and (ii) The required

NO<INF>X emission reductions for that covered area thereafter shall not be made less stringent regardless of the results of subsequent NO<INF>X emissions reduction surveys. (n) Effect of benzene survey failure. (1) On each occasion that a covered area fails a benzene content survey series, conducted pursuant to Sec. 80.68, the benzene content standards for that covered area beginning in the year following the year of the failure shall be made more stringent as follows:

(i) The average benzene content shall be decreased by 0.05% by volume; and

(ii) The maximum benzene content for each gallon of averaged gasoline shall be decreased by 0.10% by volume. (2) In the event that a covered area for which the benzene standards have been made more stringent passes all benzene content survey series conducted in two consecutive years, the benzene standards for that covered area beginning in the year following the second year of passed survey series shall be made less stringent as follows: (i) The average benzene content shall be increased by 0.05% by volume; and

(ii) The maximum benzene content for each gallon of averaged gasoline shall be increased by 0.10% by volume. (3) In the event that a covered area for which the benzene standards have been made less stringent fails a subsequent benzene content survey series:

(i) The standards for benzene content for that covered area beginning in the year following this subsequent failure shall be the more stringent standards which were in effect prior to the operation of paragraph (n)(2) of this section; and

(ii) The standards for benzene content for that covered area thereafter shall not be made less stringent regardless of the results of subsequent benzene content surveys. (o) Effect of oxygen survey failure. (1) In any year that a covered area fails an oxygen content survey series, conducted pursuant to Sec. 80.68, the minimum oxygen content requirement for that covered area beginning in the year following the year of the failure is made more stringent by increasing

the minimum oxygen content standard, for each gallon of averaged gasoline, by an additional 0.1%; however, in no case shall the minimum oxygen content standard be greater than 2.0%. (2) In the event that a covered area for which the minimum oxygen content standard has been made more stringent passes all oxygen content survey series in two consecutive years, the minimum oxygen content standard for that covered area beginning in the year following the second year of passed survey series shall be made less stringent by decreasing the minimum oxygen content standard by 0.1%. (3) In the event that a covered area for which the minimum oxygen content standard has been made less stringent fails a subsequent oxygen content survey series:

(i) The standard for minimum oxygen content for that covered area beginning in the year following this subsequent failure shall be made more stringent by increasing the minimum oxygen content standard by 0.1%; and

(ii) The minimum oxygen content standard for that covered area thereafter shall not be made less stringent regardless of the results of subsequent oxygen content surveys.

(p) Effective date for changed minimum or maximum standards. In the case of any minimum or maximum standard that is changed to be more stringent by operation of paragraphs (k), (m), (n), or (o) of this section, the effective date for such change shall be ninety days following the date EPA announces the change. (q) Refineries, importers, and oxygenate blenders subject to adjusted standards. Standards for average compliance that are adjusted to be more or less stringent by operation of paragraphs (k), (l), (m), (n), or (o) of this section apply to averaged reformulated gasoline produced at each refinery or oxygenate blending facility, or imported by each importer as follows:

(1) Adjusted standards for a covered area apply to averaged reformulated gasoline that is produced at a refinery or oxygenate blending facility if:

(i) Any averaged reformulated gasoline from that refinery or oxygenate blending facility supplied the covered area during any year a survey was conducted which gave rise to a standards adjustment; or (ii) Any averaged reformulated gasoline from that refinery or oxygenate blending facility supplies the covered area during any year that the standards are more stringent than the initial standards; unless

(iii) The refiner or oxygenate blender is able to show that the volume of averaged reformulated gasoline from a refinery or oxygenate blending facility that supplied the covered area during any year under paragraphs (q)(1) (i) or (ii) of this section was less than one percent of the reformulated gasoline produced at the refinery or oxygenate blending facility during that year, or 100,000 barrels, whichever is less.

(2) Adjusted standards for a covered area apply to averaged reformulated gasoline that is imported by an importer if: (i) The covered area with the adjusted standard is located in Petroleum Administration for Defense District (PADD) I, and the gasoline is imported at a facility located in PADDs I, II or III; (ii) The covered area with the adjusted standard is located in PADD II, and the gasoline is imported at a facility located in PADDs I, II, III, or IV;

(iii) The covered area with the adjusted standard is located in PADD III, and the gasoline is imported at a facility located in PADDs II, III, or IV;

(iv) The covered area with the adjusted standard is located in PADD IV, and the gasoline is imported at a facility located in PADDs II, or IV; or

(v) The covered area with the adjusted standard is located in PADD V, and the gasoline is imported at a facility located in PADDs III, IV, or V; unless

(vi) Any gasoline which is imported by an importer at any facility located in any PADD supplies the covered area, in which case the adjusted standard also applies to averaged gasoline

imported at that facility by that importer.

(3) Any gasoline that is transported in a fungible manner by a pipeline, barge, or vessel shall be considered to have supplied each covered area that is supplied with any gasoline by that pipeline, or barge or vessel shipment, unless the refiner or importer is able to establish that the gasoline it produced or imported was supplied only to a smaller number of covered areas.

(4) Adjusted standards apply to all averaged reformulated gasoline produced by a refinery or imported by an importer identified in this paragraph (q), except:

(i) In the case of adjusted VOC standards for a covered area located in VOC Control Region 1, the adjusted VOC standards apply only to averaged reformulated gasoline designated as VOC-controlled intended for use in VOC Control Region 1; and

(ii) In the case of adjusted VOC standards for a covered area located in VOC Control Region 2, the adjusted VOC standards apply only to averaged reformulated gasoline designated as VOC-controlled intended for use in VOC Control Region 2.

(r) Definition of PADD. For the purposes of this section only, the following definitions of PADDs apply:

(1) The following states are included in PADD I:

Connecticut

Delaware

District of Columbia

Florida

Georgia

Maine

Maryland

Massachusetts

New York

New Hampshire

New Jersey

North Carolina

Pennsylvania

Rhode Island

South Carolina

Vermont

Virginia

West Virginia

(2) The following states are included in PADD II:

Illinois

Indiana

Iowa

Kansas

Kentucky

Michigan

Minnesota

Missouri

Nebraska

North Dakota

Ohio

Oklahoma

South Dakota

Tennessee

Wisconsin

(3) The following states are included in PADD III:

Alabama

Arkansas

Louisiana

Mississippi

New Mexico

Texas

(4) The following states are included in PADD IV:

Colorado

Idaho

Montana

Utah

Wyoming

(5) The following states are included in PADD V:

Arizona

California

Nevada

Oregon

Washington

Sec. 80.42 Simple emissions model.

(a) VOC emissions. The following equations shall comprise the simple model for VOC emissions. The simple model for VOC emissions shall be used only in determining toxics emissions:

Summer=The period of May 1 through September 15 Winter=The period of September 16 through April 30 EXHVOCS1=Exhaust nonmethane VOC emissions from the fuel in question, in grams per mile, for VOC control region 1 during the summer period EXHVOCS2=Exhaust nonmethane VOC emissions from the fuel in question, in grams per mile, for VOC control region 2 during the summer period EXHVOCW=Exhaust nonmethane VOC emissions from the fuel in question, in grams per mile, for the winter period

EVPVOCS1=Evaporative VOC emissions from the fuel in question, in grams per mile for VOC control region 1 during the summer period EVPVOCS2=Evaporative VOC emissions from the fuel in question, in grams per mile for VOC control region 2 during the summer period

RLVOCS1=Running loss VOC emissions from the fuel in question, in grams per mile for VOC control region 1 during the summer period RLVOCS2=Running loss VOC emissions from the fuel in question, in grams per mile for VOC control region 2 during the summer period

REFVOCS1=Refueling VOC emissions from the fuel in question, in grams per mile for VOC control region 1 during the summer period REFVOCS2=Refueling VOC emissions from the fuel in question, in grams per mile for VOC control region 2 during the summer period

OXCON=Oxygen content of the fuel in question, in terms of weight percent (as measured under Sec. 80.46) RVP=Reid vapor pressure of the fuel in question, in pounds per square inch (psi)

(1) The following equations shall comprise the simple model for VOC emissions in VOC Control Region 1 during the summer period:

EXHVOCS1=0.444 x (1-(0.127/2.7) x OXCON) EVPVOCS1=0.7952-0.2461 x RVP +0.02293 x RVP x RVP RLVOCS1=-0.734+0.1096 x RVP +0.002791 x RVP x RVP REFVOCS1=0.04 x ((0.1667 x RVP)-0.45)

(2) The following equations shall comprise the simple model for VOC emissions in VOC Control Region 2 during the summer period:

EXHVOCS2=0.444 x (1-(0.127/2.7) x OXCON) EVPVOCS2=0.813-0.2393 x RVP +0.021239 x RVP x RVP RLVOCS2=0.2963-0.1306 x RVP +0.016255 x RVP x RVP REFVOCS2=0.04 x ((0.1667 x RVP)-0.45)

(3) The following equation shall comprise the simple model for VOC emissions during the winter period:

EXHVOCW=0.656 x (1-(0.127/2.7) x OXCON)

(b) Toxics emissions. The following equations shall comprise the simple model for toxics emissions:

EXHBEN=Exhaust benzene emissions from the fuel in question, in milligrams per mile

EVPBEN=Evaporative benzene emissions from the fuel in question, in milligrams per mile

HSBEN=Hot soak benzene emissions from the fuel in question, in milligrams per mile

DIBEN=Diurnal benzene emissions from the fuel in question, in milligrams per mile

RLBEN=Running loss benzene emissions from the fuel in question, in milligrams per mile

REFBEN=Refueling benzene emissions from the fuel in question, in milligrams per mile

MTBE=Oxygen content of the fuel in question in the form of MTBE, in terms of weight percent (as measured under Sec. 80.46) ETOH=Oxygen content of the fuel in question in the form of ethanol, in terms of weight percent (as measured under Sec. 80.46) ETBE=Oxygen content of the fuel in question in the form of ETBE, in terms of weight percent (as measured under Sec.

80.46) FORM=Formaldehyde emissions from the fuel in question, in milligrams per mile ACET=Acetaldehyde emissions from the fuel in question, in milligrams per mile POM=Emissions of polycyclic organic matter from the fuel in question, in milligrams per mile BUTA=Emissions of 1,3-Butadiene from the fuel in question, in milligrams per mile FBEN=Fuel benzene of the fuel in question, in terms of volume percent (as measured under Sec. 80.46)

FAROM=Fuel aromatics of the fuel in question, in terms of volume percent (as measured under Sec. 80.46) TOXREDS1=Total toxics reduction of the fuel in question during the summer period for VOC control region 1 in percent TOXREDS2=Total toxics reduction of the fuel in question during the summer period for VOC control region 2 in percent TOXREDW=Total toxics reduction of the fuel in question during the winter period in percent

(1) The following equations shall comprise the simple model for toxics emissions in VOC control region 1 during the summer period:

TOXREDS1=[100 x (53.2-EXHBEN -EVPBEN-RLBEN-REFBEN -FORM-ACET-BUTA -POM)]/53.2

EXHBEN=[1.884+0.949 x FBEN+0.113 x (FAROM-FBEN))/100] x 1000 x EXHVOCS1

EVPBEN=HSBEN+DIBEN

HSBEN=FBEN x (EVPVOCS1 x 0.679) x 1000 x [(1.4448-(0.0684 x MTBE/2.0)-(0.080274 x RVP))/100]

DIBEN=FBEN x (EVPVOCS1 x 0.321) x 1000 x [(1.3758-(0.0579 x MTBE/2.0)-(0.080274 x RVP))/100]

RLBEN=FBEN x RLVOCS1 x 1000 x [(1.4448-(0.0684 x MTBE/ 2.0)-(0.080274 x RVP))/100]

REFBEN=FBEN x REFVOCS1 x 1000 x [(1.3972-(0.0591xMTBE/ 2.0)-(0.081507 x RVP))/100] BUTA=0.00556xEXHVOCS1x1000 POM=3.15 x EXHVOCS1

(i) For any oxygenate or mixtures of oxygenates, the formaldehyde and acetaldehyde shall be calculated with the following equations:

FORM=0.01256 x EXHVOCS1 x 1000 x [1+(0.421/2.7) x MTBE+TAME)+(0.358/3.55) x ETOH + (0.137/2.7) x (ETBE+ETAE)] ACET=0.00891 x EXHVOCS1 x 1000 x [1 + (0.078/2.7) x (MTBE+TAME)+(0.865/3.55) x ETOH+(0.867/2.7) x (ETBE+ETAE)]

(ii) When calculating formaldehyde and acetaldehyde emissions using the equations in paragraph (b)(1)(i) of this section, oxygen in the form of alcohols which are more complex or have higher molecular weights than ethanol shall be evaluated as if it were in the form of ethanol. Oxygen in the form of methyl ethers other than TAME and MTBE shall be evaluated as if it were in the form of MTBE. Oxygen in the form of ethyl ethers other than ETBE shall be evaluated as if it were in the form of ETBE. Oxygen in the form of non-methyl, non-ethyl ethers shall be evaluated as if it were in the form of ETBE. (2) The following equations shall comprise the simple model for toxics emissions in VOC control region 2 during the summer period:

TOXREDS2=100 x (52.1 - EXHBEN - EVPBEN - RLBEN - REFBEN - FORM - ACET

- BUTA - POM)/52.1

  EXHBEN=[(1.884+0.949 x FBEN+0.113 x (FAROM-FBEN))/100] x 1000 x EXHVOCS2

  EVPBEN=HSBEN+DIBEN

  HSBEN=FBEN x (EVPVOCS2 x 0.679) x 1000 x [(1.4448-(0.0684 x MTBE/2.0)-(0.080274 x RVP))/100]

  DIBEN=FBEN x (EVPVOCS2 x 0.321) x 1000 x [(1.3758-(0.0579 x MTBE/2.0)-(0.080274 x RVP))/100]

  RLBEN=FBEN x RLVOCS2 x 1000 x [(1.4448-(0.0684 x MTBE/ 2.0)-(0.080274

x RVP))/100]

REFBEN=FBEN x REFVOCS2 x 1000 x [(1.3972-(0.0591 x MTBE/

2.0)-(0.081507 x RVP))/100]

BUTA=0.00556 x EXHVOCS2 x 1000

POM=3.15 x EXHVOCS2

(i) For any oxygenate or mixtures of oxygenates, the formaldehyde and acetaldehyde shall be calculated with the following equations:

FORM=0.01256 x EEXHVOCS2 x 1000 x [1+(0.421/2.7) x (MTBE+TAME)+(0.358/3.55) x ETOH+(0.137/2.7) x (ETBE+ETAE)] ACET=0.00891 x EXHVOCS2 x 1000 x [1+(0.078/2.7) x (MTBE+TAME)+(0.865/3.55) x ETOH+(0.867/2.7) x (ETBE+ETAE)]

(ii) When calculating formaldehyde and acetaldehyde emissions using the equations in paragraph (b)(2)(i) of this section, oxygen in the form of alcohols which are more complex or have higher molecular weights than ethanol shall be evaluated as if it were in the form of ethanol. Oxygen in the form of methyl ethers other than TAME and MTBE shall be evaluated as if it were in the form of MTBE. Oxygen in the form of ethyl ethers other than ETBE shall be evaluated as if it were in the form of ETBE. Oxygen in the form of non-methyl, non-ethyl ethers shall be evaluated as if it were in the form of ETBE. (3) The following equations shall comprise the simple model for toxics emissions during the winter period:

TOXREDW=100 x (55.5-EXHBEN-FORM-ACET -BUTA-POM) /55.5

EXHBEN=[(1.884+0.949 x FBEN+0.113 x (FAROM-FBEN)) /100] x 1000 x EXHVOCW

BUTA=0.00556 x EXHVOCW x 1000

POM=2.13 x EXHVOCW

(i) For any oxygenate or mixtures of oxygenates, the formaldehyde and acetaldehyde shall be

calculated with the following equations:

FORM=0.01256 x EXHVOCS1 x 1000 x [1+(0.421/2.7) x (MTBE+TAME)+(0.358/3.55) x ETOH+(0.137/2.7) x (ETBE+ETAE)] ACET=0.00891 x EXHVOCS1 x 1000 x [1+(0.078/2.7) x (MTBE+TAME)+(0.865/3.55) x ETOH+(0.867/2.7) x (ETBE+ETAE)]

(ii) When calculating formaldehyde and acetaldehyde emissions using the equations in paragraph (b)(3)(i) of this section, oxygen in the form of alcohols which are more complex or have higher molecular weights than ethanol shall be evaluated as if it were in the form of ethanol. Oxygen in the form of methyl ethers other than TAME and MTBE shall be evaluated as if it were in the form of MTBE. Oxygen in the form of ethyl ethers other than ETBE shall be evaluated as if it were in the form of ETBE. Oxygen in the form of non-methyl, non-ethyl ethers shall be evaluated as if it were in the form of ETBE. (c) Limits of the model. (1) The model given in paragraphs (a) and (b) of this section shall be used as given to determine VOC and toxics emissions, respectively, if the properties of the fuel being evaluated fall within the ranges shown in this paragraph (c). If the properties of the fuel being evaluated fall outside the range shown in this paragraph (c), the model may not be used to determine the VOC or toxics performance of the fuel:

Fuel parameter	Range
Benzene content	0-2.5 vol %
RVP	6.6-9.0 psi
Oxygenate content	0-3.5 vol %
Aromatics content	10-45 vol %

(2) The model given in paragraphs (a) and (b) of this section shall be effective from January 1, 1995 through December 31, 1997, unless extended by action of the Administrator.

Secs. 80.43-80.44 [Reserved]

Sec. 80.45 Complex emissions model.

(a) Definition of terms. For the purposes of this section, the following definitions shall apply:

Target fuel=The fuel which is being evaluated for its emissions performance using the complex model

OXY=Oxygen content of the target fuel in terms of weight percent SUL=Sulfur content of the target fuel in terms of parts per million by weight

RVP=Reid Vapor Pressure of the target fuel in terms of pounds per square inch

E200=200 deg.F distillation fraction of the target fuel in terms of volume percent

E300=300 deg.F distillation fraction of the target fuel in terms of volume percent

ARO=Aromatics content of the target fuel in terms of volume percent BEN=Benzene content of the target fuel in terms of volume percent OLE=Olefins content of the target fuel in terms of volume percent MTB=Methyl tertiary butyl ether content of the target fuel in terms of weight percent oxygen

ETB=Ethyl tertiary butyl ether content of the target fuel in terms of weight percent oxygen

TAM=Tertiary amyl methyl ether content of the target fuel in terms of weight percent oxygen

ETH=Ethanol content of the target fuel in terms of weight percent oxygen

exp=The function that raises the number e (the base of the natural logarithm) to the power in its domain

Phase I=The years 1995-1999

Phase II=Year 2000 and beyond

(b) Weightings and baselines for the complex model. (1) The weightings for normal and higher emitters (w<INF>1 and w<INF>2, respectively) given in Table 1 shall be used to calculate the exhaust emission performance of any fuel for the appropriate pollutant and Phase:

Table 1 --Normal and Higher Emitter Weightings for Exhaust Emissions

	Phase I	Phase II

	VOC & toxics	NO<INF>X	VOC & toxics	NO<INF>X
Normal Emitters (w≤INF≥1)	0.52	0.82	0.444	0.738
Higher Emitters (w≤INF≥2)	0.48	0.18	0.556	0.262

(2) The following properties of the baseline fuels shall be used when determining baseline mass emissions of the various pollutants:

Table 2.--Summer and Winter Baseline Fuel Properties

Fuel property	Summer	Winter
Oxygen (wt %)	0.0	0.0
Sulfur (ppm)	339	338
RVP (psi)	8.7	11.5
E200 (%)	41.0	50.0
E300 (%)	83.0	83.0
Aromatics (vol %)	32.0	26.4
Olefins (vol %)	9.2	11.9
Benzene (vol %)	**1.53**	**1.64**

(3) The baseline mass emissions for VOC, NO<INF>X and toxics given in Tables 3, 4 and 5 of this paragraph (b)(3) shall be used in conjunction with the complex model during the appropriate Phase and season:

Table 3.--Baseline Exhaust Emissions

	Phase I		Phase II	
Exhaust pollutant	Summer (mg/mile)	Winter (mg/mile)	Summer (mg/mile)	Winter (mg/mile)
VOC	446	660	907	1341
NO<INF>X	750	1340	1540	660
Benzene	26.10	37.57	53.54	77.62

Acetaldehyde..... 2.19 3.57 4.44 7.25 Formaldehyde..... 4.85 7.73 9.70 15.34 1,3-Butadiene..... 4.31 7.27 9.38 15.84

POM..... 1.50 2.21 3.04 4.50

Table 4 --Baseline Non-Exhaust Emissions (Summer Only)

	Phase I		Phase II	
Non-exhaust pollutant	Region 1 (mg/mile)	Region 2 (mg/mile)	Region 1 (mg/mile)	Region 2 (mg/mile)
VOC	860.48	769.10	559.31	492.07
Benzene..... 9.66 8.63 6.24 5.50				

Table 5.--Total Baseline VOC, NO<INF>X and Toxics Emissions

Summer (mg/mile)				Winter (mg/mile)			
Pollutant							
Phase I		Phase II		Phase I		Phase II	
Region 1	Region 2	Region 1	Region 2	Region 1	Region 2	Region 1	Region 2
NO<INF>X				660.0	660.0	1340.0	1340.0
750.0	1540.0	1540.0					
VOC..... 1306.5 1215.1							

1466.3 1399.1 660.0 660.0 1341.0 1341.0

Toxics..... 48.61 47.58 86.34 85.61 58.36

58.36 120.55 120.55

(c) VOC performance. (1) The exhaust VOC emissions performance of gasolines shall be given by the following equations:

VOCE=VOC(b)+(VOC(b) x Y<INF>voc(t)/100) Y<INF>voc(t)=[(w<INF>1 x N<INF>v)+(w<INF>2 x H<INF>v)-1] x 100

where

VOCE=Exhaust VOC emissions in milligrams/mile Y<INF>voc(t)=Exhaust VOC performance of the target fuel in terms of percentage change from baseline

VOC(b)=Baseline exhaust VOC emissions as defined in paragraph (b)(2) of this section for the appropriate Phase and season N<INF>v=[exp v<INF>1(t)]/[exp v<INF>1(b)] H<INF>v=[exp v<INF>2(t)]/[exp v<INF>2(b)] w<INF>1=Weighting factor for normal emitters as defined in paragraph (b)(1) of this section for the appropriate Phase w<INF>2=Weighting factor for higher emitters as defined in paragraph (b)(1) of this section for the appropriate Phase

v<INF>1(t)=Normal emitter VOC equation as defined in paragraph (c)(1)(i) of this section, evaluated using the target fuel's properties subject to paragraphs (c)(1) (iii) and (iv) of this section v<INF>2(t)=Higher emitter VOC equation as defined in paragraph (c)(1)(ii) of this section, evaluated using the target fuel's properties subject to paragraphs (c)(1) (iii) and (iv) of this section v<INF>1(b)=Normal emitter VOC equation as defined in paragraph (c)(1)(i) of this section, evaluated using the base fuel's properties v<INF>2(b)=Higher emitter VOC equation as defined in paragraph (c)(1)(ii) of this section, evaluated using the base fuel's properties

(i) Consolidated VOC equation for normal emitters.

v<INF>1=(-0.003641 x OXY)+(0.0005219 x SUL)+(0.0289749 x RVP)+(-0.014470 x E200)+(-0.068624 x E300)+(0.0323712 x ARO)+(-0.002858 x OLE)+(0.00010 72 x E2002)+(0.0004087 x E3002)+(-0.0003481 x ARO x E300)

(ii) VOC equation for higher emitters.

v<INF>2=(-0.003626 x OXY)+(-5.40X10- \5\ x SUL)+(0.043295 x RVP)+(-0.013504 x E200)+(-0.062327 x E300)+(0.028 2042 x ARO)+(-0.002858 x OLE)+(0.000106 x E200\2\)+(0.000408 x E300\2\)+ (-0.000287 x ARO x E300)

(iii) Flat line extrapolations. (A) During Phase I, fuels with E200 values greater than 65.83 percent shall be evaluated with the E200 fuel parameter set equal to 65.83 percent when calculating Y<INF>voc(t) and VOCE using the equations described in paragraphs (c)(1) (i) and (ii) of this section. Fuels with E300 values greater than E300* (calculated using the equation E300*=80.32+[0.390 x ARO]) shall be evaluated with the E300 parameter set equal to E300* when calculating VOCE using the equations described in paragraphs (c)(1) (i) and (ii) of this section. For E300* values greater than 94, the linearly extrapolated model presented in paragraph (c)(1)(iv) of this section shall be used. (B) During Phase II, fuels with E200 values greater than 65.52 percent shall be evaluated with the E200 fuel parameter set equal to 65.52 percent when calculating VOCE using the equations described in paragraphs (c)(1) (i) and (ii) of this section. Fuels with E300 values greater than E300* (calculated using the equation E300*=79.75+[0.385 x ARO]) shall be evaluated with the E300 parameter set equal to E300* when calculating VOCE using the equations described in paragraphs (c)(1) (i) and (ii) of this section. For E300* values greater than 94, the linearly extrapolated model presented in paragraph (c)(1)(iv) of this section shall be used.

(iv) Linear extrapolations. (A) The equations in paragraphs (c)(1) (i) and (ii) of this section

shall be used within the allowable range of E300, E200, and ARO for the appropriate Phase, as defined in Table 6:

Table 6.--Allowable Ranges of E200, E300, and ARO for the Exhaust VOC Equations in Paragraphs (c)(1)(i) and (ii) of This Section

	Phase I		Phase II	
Fuel parameter	Lower limit	Higher limit	Lower limit	Higher limit
E200	33.00	65.83	33.00	65.52
E300			72.00	\1\Variable
			72.00	\2\Variable
ARO	18.00	46.00	18.00	46.00

\1\Higher E300 Limit=80.32+[0.390 x (ARO)].

\2\Higher E300 Limit=79.75+[0.385 x (ARO)].

(B) For fuels with E200, E300 and ARO levels outside the ranges defined in Table 6, Y<INF>voc(t) shall be defined as:

For Phase I:

Y<INF>voc(t)=100% x 0.52 x [exp(v<INF>1(et)) /exp(v<INF>1(b))-1] +100% x 0.48 x [exp(v<INF>2(et)) /exp(v<INF>2(b))-1] +{[100% x 0.52 x exp(v<INF>1(et)) /exp(v<INF>1(b))] x [{[(0.0002144 x E200<INF>et) -0.014470] x <greek-D>E200} +{[(0.0008174 x E300<INF>et) -0.068624-(0.000348 x ARO<INF>et)] x <greek-D>E300}+{[(-0.000348 x E300<INF>et) +0.0323712] x <greek-D>ARO}]} +{[100% x 0.48 x exp(v<INF>2(et)) / exp(v<INF>2(b))] x [{[(0.000212 x E200<INF>et) -0.01350] x <greek-D>E200} +{[(0.000816 x E300<INF>et) -0.06233-(0.00029 x ARO<INF>et)] x

<greek-D>E300}+{[(-0.00029 x E300<INF>et) +0.028204] x <greek-D>ARO}]}

For Phase II:

Y<INF>voc(t)=100% x 0.444 x [exp(v<INF>1(et)) /exp(v<INF>1(b))-1] +100% x 0.556 x [exp(v<INF>2(et)) /exp(v<INF>2(b))-1] +{[100% x 0.444 x exp(v<INF>1(et)) /exp(v<INF>1(b))] x [{[(0.0002144 x E200<INF>et) 0.014470] x <greek-D>E200} +{[(0.0008174 x E300<INF>et) -0.068624-(0.000348 x ARO<INF>et)] x <greek-D>E300}+{[(-0.000348 x E300<INF>et) +0.0323712] x <greek-D>ARO}]} +{[100% x 0.556 x exp(v<INF>2(et)) / exp(v<INF>2(b))] x [{[(0.000212 x E200<INF>et) -0.01350] x <greek-D>E200}+ {[(0.000816 x E300<INF>et) -0.06233-(0.00029 x ARO<INF>et)] x <greek-D>E300}+{[(-0.00029 x E300<INF>et) +0.028204] x <greek-D>ARO}]}

where

v<INF>1, v<INF>2=The equations defined in paragraphs (c)(1) (i) and (ii) of this section

et=Collection of fuel parameters for the ``edge target'' fuel. These parameters are defined in paragraphs (c)(1)(iv)(C) and (D) of this section

v<INF>1(et)=The function v<INF>1 evaluated with ``edge target'' fuel parameters, which are defined in paragraphs (c)(1)(iv)(C) and (D) of this section

v<INF>2(et)=The function v<INF>2 evaluated with ``edge target'' fuel parameters, which are defined in paragraphs (c)(1)(iv)(C) and (D) of this section

v<INF>1(b)=The function v<INF>1 evaluated with the appropriate baseline fuel defined in paragraph (b)(2) of this section v<INF>2(b)=The function v<INF>2 evaluated with the appropriate baseline fuel defined in paragraph (b)(2) of this section E200<INF>et=The value of E200 for the ``edge target'' fuel, as defined in paragraphs (c)(1)(iv)(C) and (D) of this section

E300<INF>et=The value of E300 for the ``edge target'' fuel, as defined in paragraphs